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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

John R. Klug, et al.

Serial No.: 09/884,779

Filed: June 19, 2001

FOR: A WORLD WIDE WEB REGISTRATION
INFORMATION PROCESSING SYSTEM

) **Art Unit:** 3621

) **Examiner:** M. Cheung

) **Appeal No.:** _____

) **Appellant's Brief on Appeal**
(37 C.F.R. 1.192)

) **Attn:** Board of Patent Appeals
and Interferences

Mail Stop Appeal Brief Patent
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Commissioner:

Appellant submits this Brief in furtherance of the Advisory Action mailed August 12, 2003, Paper No. 19, and in furtherance of the Notice of Appeal filed April 11, 2003, with regard to the above identified patent application. Appellant notes that the fee set forth in 37 C.F.R. 1.17(c), currently \$160.00 for a small entity for filing an Appeal Brief, is dealt with in the accompanying "Transmittal of Appeal Brief." Appellant does not believe there are any other fees due with the filing of this Appeal Brief, however, should there be any fees due or an overpayment has occurred, please charge/refund such fees/overpayment, respectively, to Deposit Account No. 04-1415.

Appellant further notes that this Appeal Brief is being transmitted in triplicate, pursuant to 37 C.F.R. 1.192(a). Furthermore, the structure of this Brief is as follows and in the order required by 37 C.F.R. 1.192(c):

I. Real Party in Interest

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- II. Related Appeals and Interferences
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 - A. Claims 1 and 3 – 10 as pending on Appeal;
 - B. Specification for Appealed application;
 - C. Abstract for Appealed application;
 - D. Drawing figures for Appealed application;
 - E. First Office Action of October 12, 2001;
 - F. U.S. Patent No. 5, 590,197, which issued to Chen et al., on December 31, 1996, and is entitled “Electronic Payment System and Method”;
 - G. Appellant’s response to the First Office Action of March 22, 2002;
 - H. Final Office Action of November 13, 2002;
 - I. *Miller v. Eagle Manufacturing Co.*, 151 U.S. 186, 14 S.Ct. 310 (1894);
 - J. *In re Donohue*, 766 F.2d 531, 534, 226 USPQ 619, 621 (Fed. Cir. 1985);
 - K. *Mehl/Biophile International Corp. v. Milgraum*, 192 F.3d 1362, 1365, 52 USPQ2d 1303, 1306 (Fed. Cir. 1999);
 - L. *In re Vogel*, 57 C.C.P.A. 920, 925, 422 F.2d 438 (1970);

- M. *Helifix Ltd. v. Blok-Lok, Ltd.*, 208 F.3d 1339, 54 USPQ 2d 1299 (Fed. Cir. 2000);
- N. *In re Paulsen*, 30 F.3d 1475, 1478-79, 31 USPQ2d 1671, 1673 (Fed. Cir. 1994);
- O. *In re Hyatt*, 211 F.3d 1367, 1372 54 USPQ2d 1664, 1667 (Fed. Cir. 2000);
- P. *In re Goodman*, 11 F.3d 1046, 29 U.S.P.Q.2d 2010 (Fed. Cir. 1993); and
- Q. U.S.P.N. 5,790,785.

I. Real Party in Interest (37 C.F.R. § 1.192(c)(1))

The real party in Interest with respect to the present Appeal is Customer Communications Group, Inc. which is located at 12600 West Cedar Drive, Denver, CO 80228. Customer Communications Group, Inc. has been previously assigned all rights, title and interest in the present application by assignments from inventors John R. Klug and Thad D. Peterson, such assignments being duly recorded by the U.S. Patent Office at reel/frame 012622/0891 and 0122622/0894, respectively, on April 24, 2002.

II. Related Appeals and Interferences (37 C.F.R. § 1.192(c)(2))

None

III. Status of Claims (37 C.F.R. § 1.192(c)(3))

The status of the claims is as follows:

1. Claims cancelled: 2 and 11.
2. Claims withdrawn from consideration but not cancelled: None.
3. Claims pending: 1 and 3-10.
4. Claims allowed: None.
5. Claims rejected: 1 and 3 -10.
6. Claims appealed: 1 and 3 - 10, as set forth in Appendix A.

IV. Status of Amendments (37 C.F.R. § 1.192(c)(4))

Appellant files herewith an Amendment after Final Rejection Under 37 C.F.R. 1.116 in which claims 2 and 11 are cancelled. Appellant contends that the Amendment After Final is being submitted herewith in order to more precisely set forth the claimed subject matter.

V. Summary of Invention (37 C.F.R. § 1.192(c)(5))

Independent claims 1 and 10 and dependent claims 3-9, all of which depend from claim 1, are separately addressed hereinbelow. Summarily, Appellant's claimed invention is generally directed to a system and method for registering users with World Wide Web ("WWW") sites. In particular, the invention provides access to registration information stored either at a web site, on a user's device, or at both. The registration information is generally provided by a user so that, upon requesting to register at a third or requesting web site, the stored registration information may be transmitted to the third or requesting web site, without requiring reentry of all or most of the registration information.

More specifically, Appellant's claimed invention, in at least one embodiment, utilizes a WWW registration web site or other node which may be used as a repository for registration information. Such registration information may then be transmitted to another web site or node at which a given user desires to register or otherwise provide all or part of the previously deposited registration information. A method of utilizing the claimed invention is set forth in independent claim 1. It is to be appreciated that Figure 1 provides one illustration of a system embodiment which may be used to implement the claimed methodologies as well as those methods further set forth in Figures 2 through 13B.

Independent Claim 1

In particular and with reference to Figure 1, independent claim 1 sets forth a method for registering a user (*e.g.*, via a client node, for example, a WWW client node 108) connected to a communications network (for example, the WWW 104)) with at least one of a plurality of requested nodes (*e.g.*, one of a plurality of third party web sites 116). The nodes of the network use an Internet addressing scheme (such as the scheme used on the WWW).

This method comprises the steps of “first storing registration information related to the user in a first data store on a first node of said network.” For at least one first embodiment, the registration information may be stored by the user filling out forms and “upon submittal of the filled out forms by the user to the registrar web site 100 ... the user’s registration information is stored in the user registration information database 144” (see page 8, lines 13-15). The process by which such registration information may be provided and stored is further described with reference to steps 204 - 236 in Figure 2A and steps 304-324 in Figure 3; also, see page 11, line 22 to page 13, line 11.

For a second embodiment, the step of “first storing registration information ...” may be accomplished when “the user accesses a present third party web site 116 cooperating with the registrar ...” (see page 15, lines 5 – 10). More specifically, in this embodiment, the user registration information is stored with a registrar web site 100 and then provided to the third party web site.

Other embodiments also exist for first storing the user registration information, including storing such information on the WWW client node 108 (*e.g.*, steps 1204 – 1208 in Figure 12, and page 10, line 8 to page 11, line 21).

The method of independent claim 1 further provides for “second storing of said registration information in a second store on a second node of said network, said second node being different from said first node.” More specifically, for at least one embodiment of the claimed invention, the specification provides that the registration information may be stored on the registrar web site 100 as well as at the WWW client node 108. For another embodiment,

such as that provided at page 10, line 13 through page 11, line 6, the specification provides that “a registrar registration module 156 is integrated into the user’s WWW browser 120 for gathering the user’s web site registration information and communicating with the registrar web site 100 ... Such a registration module 156 may provide the user with easier access to his/her registration information since the information resides locally on the user’s WWW client node 108 in a persistent nonvolatile storage.... after the user has entered the registration information ... this module will substantially automatically contact the registrar web site and thereby communicate the user’s registration information to the registrar web site 100 [for storage].” As such, various embodiments of the presently claimed invention exist by which registration information may be stored at a plurality of nodes on a network.

The methodology set forth in independent claim 1 also provides for “providing the user with a user identification code permitting access to said registration information in at least one of said first and second stores.” This step is also supported in the specification in various locations and in particular with reference to Figure 2, steps 240 – 248 (see also page 13 lines 15 – 22) and with reference to Figure 13, steps 1304 – 1348 (see also page 33 line 18 to page 35, line 15).

Lastly, independent claim 1 provides for “supplying at least one requested node of said plurality of requested nodes: (a) said user identification code for registering the user at said at least one requested node, and (b) said registration information transmitted from one of said first and second stores for registering the user at said at least one requested node.” This step is also set forth in the specification and drawings (see, for example, Figures 4A and 4B, steps 432 – 436, and page 16, line 22 to page 23, line 3).

Dependent Claim 3

Claim 3 depends from independent claim 1 and further provides that the “communications network utilizes an internet protocol.” This concept of using the internet to facilitate communications between the various nodes is supported in Figure 1 (see WWW 104). It is commonly known and appreciated that the WWW is an Internet facility and thus utilizes Internet protocols for connectivity.

Dependent Claims 4 and 5

Claim 4 depends from independent claim 1 and further includes “a step of providing a modification to said registration material on one of said first and second stores to the other of said first and second stores.” Claim 5 depends from claim 4 and further provides that “the step of providing includes retaining said modification in said first and second stores, wherein said modification is transmitted to said at least one requested node in said step of supplying from one of said first and second stores.” For support in the specification and drawings for these limitations, please see Figures 11A – 11B and 12A – 12B, also, see page 28, line 13 to page 33, line 17.

Dependent Claim 6

Claim 6 depends from claim 1 and further provides that the “first step of storing includes inputting said registration information by the user.” Please see the discussion above with respect to claim 1 for an identification of specification support for user inputting of registration information.

Dependent Claim 7

Claim 7 depends from claim 1 and further provides that the “step of second storing includes transmitting said registration information from said first node to said second node using said communications network.” For specification support for this limitation, please see page 7, line 16 through page 8, line 15, wherein is discussed the concept of a user filling out forms on which registration information is inputted and the inputted information is then transmitted to the registrar web site 100 (Fig. 1) or second node via the WWW 104. Also, see page 11, lines 1 - 4 wherein it is provided that “after the user has entered registration information into the registrar registration module 156, ... the user’s registration information [is communicated] to the registrar web site 100 [via the WWW 104].”

Dependent Claim 8

Claim 8 depends from claim 1 and further provides that the “step of supplying includes: inputting user identification from said first node; transmitting said user identification to said

second node; and using said user identification at said second node for determining said user identification code.” More specifically, support for this concept is clearly set forth in Figure 2B, steps 240 – 248 and also in Figure 12A, steps 1232 - 1240.

Dependent Claim 9

Claim 9 depends from claim 1 and further provides that the “step of supplying includes requesting, by said at least one requested node, said registration information from said second node.” This limitation is supported in drawing Figures 5 and 6 and in the specification at page 17, line 8 to page 23, line 5.

Independent Claim 10

Independent claim 10 provides a “method for registering a user at a plurality of user request nodes (116, Fig. 1) of a communications network (104, Fig. 1) wherein nodes of the network are identified using an internet addressing scheme.” This method includes the step of “manually inputting registration information related to the user at a first node (108) of said network.” For specification support for this limitation please see, for example, page 8, lines 4-6.

Further, this claimed method includes the step of “transmitting said registration information from said first node (108) to a second node (100) of said network” (please see, for example, page 8, lines 6-8).

Also, included is the step of “providing the user with a user identification code permitting access to said registration information at said second node (100)” and for “transmitting said user identification code from said first node (108) to at least one third node (116).” Please see, for example, Figures 2A-2B and supporting description thereof and/or page 15, line 21 to page 17, line 7 for a discussion of one embodiment by which a user identification code may be provided to the user and transmitted by the user to the third node (116).

Lastly, claim 10 provides for “supplying said registration information from said second node (100) to said at least one requested node (116) upon receipt of information identifying said

user identification code.” Again, please see Figures 5, 6 and 7 and their supporting description in the specification for support for this limitation.

Closing Remarks on Summary of Invention

In closing, in this section Appellant has attempted to identify at least one instance in the drawing figures and/or specification for each of the limitations set forth in claims 1 and 3 - 10. Appellant contends that support identified hereinabove should not be construed as limiting the claims to any particular embodiment(s), as numerous embodiments are set forth and are supported by the specification, claims and drawings. Additionally, Appellant contends that the summaries set forth hereinabove are merely one “concise explanation of the invention defined in the claims” and, therefore, should be used “to enable the Board to more quickly determine where the claimed subject matter is described in the application” as set forth in the Manual of Patent Examining Procedure, Eighth Edition, Incorporating Revision Number 1, at page 1200-10.

VI. Issues (37 C.F.R. § 1.192(c)(6))

1. Are claims 1 and 3 - 10 anticipated, under 35 U.S.C. 102(e), by Chen et al., U.S. Patent No. 5,590,197?

2. Do claims 1 and 3 - 10 claim the same invention, under 35 U.S.C. 101, as that of claims 1 and 3 - 10 of prior U.S. Patent No. 5,790,785?

VII. Grouping of Claims (37 C.F.R. § 1.192(c)(7))

Claims 1, 3, 6, 7 and 9 stand and fall together.

Claims 4 and 5 stand and fall together.

Claims 8 and 10, each, stand and fall independently.

VIII. Argument (37 C.F.R. § 1.192(c)(8))

A. Rejection of Claims 1 and 3 - 10 under 35 U.S.C. 102(e)

Claims 1 and 3 - 10 stand rejected as being anticipated by Chen et al., U.S. Patent No. 5,590,197 (hereinafter, "Chen") under 35 U.S.C. 102(e), which provides in relevant part:

A person shall be entitled to a patent unless -

(e) the invention was described in ... (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent ...
35 U.S.C. 102(e)

In determining whether a claimed invention is anticipated under 35 U.S.C. 102(e), the Federal Circuit applies an "all elements" or "strict identity" test. Under this test, a claimed invention is anticipated (*i.e.*, lacks novelty) only if all of the element of an invention, as stated in a patent claim are identically set forth in a single prior art reference. In particular, *In re Donohue*, 766 F.2d 531, 534, 226 USPQ 619, 621 (Fed. Cir. 1985) the Federal Circuit held that "an anticipation rejection requires a showing that each limitation of a claim must be found in a single reference." Other Federal Circuit decisions have further held that a single reference must teach every limitation of a claimed invention. (*Also see, Mehl/Biophile International Corp. v. Milgraum*, 192 F.3d 1362, 1365, 52 USPQ2d 1303, 1306 (Fed. Cir. 1999)).

The Federal Circuit, in determining whether a claim is anticipated, has utilized a two part test: (1) each claim must be construed; and then (2) the construed claim must be compared to the prior art. Further, in comparing the prior art reference to the construed claims, "[t]o be anticipating, a prior art reference must disclose each and every limitation of the claimed invention[,] ... must be enabling[,] and [must] describe ... [the] claimed invention sufficiently to have placed it in possession of a person of ordinary skill in the field of the invention." *Helifix Ltd. v. Blok-Lok, Ltd.*, 208 F.3d 1339, 54 USPQ 2d 1299 (Fed. Cir. 2000) (*quoting, In re Paulsen*, 30 F.3d 1475, 1478-79, 31 USPQ2d 1671, 1673 (Fed. Cir. 1994)).

Also, under the first part of the Federal Circuit's two part test for determining whether a claim is anticipated by a single reference, the Court has further held, that during prosecution,

the PTO may give a claim its broadest reasonable interpretation that is consistent with the specification. (*In re Hyatt*, 211 F.3d 1367, 1372 54 USPQ2d 1664, 1667 (Fed. Cir. 2000) (emphasis added)).

1. Construction of Independent Claim 1

As discussed above, the Federal Circuit has held that a claim must first be properly construed in light of the specification, before a reference may be used to anticipate the claimed invention. As such, Appellant contends that a proper construction of the method set forth in pending claim 1 requires a proper understanding of the term “registration information” and the operations which are specified as occurring with respect to such registration information.

Specifically, these operations are:

- (1) storing registration information related to a user at a first node on a network;
- (2) storing the registration information at a second node on the network (*i.e.*, a node that is different from the first node);
- (3) providing the user with an identification code that permits access to the registration information at either of the first or second nodes; and
- (4) supplying a requesting node with:
 - (i) the user identification code; and
 - (ii) the registration information transmitted from either the first or second node;

in order to register the user at the requesting node.

Appellant contends that pending claim 1 requires each of the above identified operations be taught by a single prior art reference in order for the claim to be anticipated. If any one or more of these operations or limitations are not taught by a single reference, then the claim can not be anticipated by the prior art.

2. Comparison of Chen to Claim 1

As stated above, once the claim has been properly construed in light of the specification, the claim should then be compared to the single reference in order to determine whether every

element of the claim is “disclosed, enabled and adequately described.” Appellant contends that Chen does not disclose, enable and/or describe every element of pending claim 1. However, before identifying how Chen does not anticipate every element of pending claim 1, Appellant, first, provides it’s understanding and characterization of what Chen does and does not teach. Appellant notes that the Examiner would appear to have reached a contrary conclusion as to the teachings of Chen. As such, the Appellant suggests that the Board should review Chen in its entirety and come to their own understanding in deciding the present Appeal.

a) The Teaching of Chen

The Chen reference, a copy of which is attached hereto, teaches an “Electronic Payment System and Method” (see, Chen’s Title) in which a “cyber wallet” may be carried as a “smartcard” or stored on a customer’s computer (see, Chen’s Abstract). The “cyber wallet” is provided “for the purpose of making electronic payments from the possessor of the wallet to a merchant at a remote site on the Internet.” (Abstract, lines 6 - 8). As shown in Figure 1 (the only Figure provided in Chen) and as described in the detailed description, Chen teaches a system and method by which a user with a “cyber wallet” may be connected to and facilitate e-commerce transactions, over the Internet, with a merchant. The merchant is correspondingly connected to a credit processor via a secure network. The credit processor provides account verification and credit authorization services.

More specifically, via the cyber wallet, a user/customer can “safely carry out transactions requiring electronic payment over an open communications network.” (Chen, column 1, lines 8-10) In essence, Appellant’s understanding of Chen is that it: first, teaches a system/ methodology for securing transactions over the Internet; and, secondly, teaches a method for securing that limited information (namely, account information) needed to facilitate e-commerce credit or debit transactions over an open communications medium, such as the Internet. In order to secure such information, the information is sent in an encrypted “authorization ticket” via a merchant to an existing, prior art (as described in Chen) account servicer’s node. The account servicer’s node then decrypts the authorization ticket, verifies the authenticity of the information contained in the authorization ticket and, when appropriate, sends an authorization message back

to the merchant. The authorization message does not include the information contained in the authorization ticket. Thus, Chen relates to and teaches a system and/or method for protecting whatever account information is needed to complete e-commerce transactions from merchants, while providing a system that is compatible with existing credit/debit card verification systems.

The fact that Chen is concerned with securing account information, prohibiting merchants from accessing such account information, and/or preventing the undesired dissemination of account information to others is clear from the "Description of Related Art" section in Chen. In particular, Appellant directs the Board's attention to Chen, column 1, line 22 to column 3, line 30; wherein Chen describes the then state-of-the-art systems for authorizing and protecting credit card transactions both in the point-of-sale environment and over an electronic connection. According to Chen, these systems are dependent upon two factors for securing account information and reliably engaging in e-commerce, namely: (1) the ability of the merchant to verify the user's authority to utilize a credit card; and (2) the user's reliance upon the merchant in protecting the user's account information (see, column 1, lines 23 – 29).

In regards to the first factor, Chen further provides that PINs, digital signatures and the like have increased the merchant's ability to authenticate a user's authorization to use a credit/debit card as a payment device. However, with respect to the second factor, Chen states that "remote purchases still carry unacceptably high risks from the point-of-view of the consumer and/or company or bank which guarantees payments made using the [credit/debit] card." (Column, 2, lines 22 – 24). In essence, Chen provides that then prior art systems/methods did not adequately protect users' account information from unscrupulous merchants and others. Thus, Chen developed a system "compatible with the existing infrastructure of credit card issuers" (Column 2, lines 52 – 53) and which "builds upon the protection provided by [these prior art] card authentication provisions [and provides] an expansion of the credit card concept into a concept involving multiple cards ... with full protection of the electronic payment information ... from remote merchants." (Column 3, lines 11-43). Thus, in a nutshell, Chen provides a system and method for protecting electronic payment information (i.e., information

similar to that used in credit card transactions) while such information is being communicated from a user to a credit processor, via a merchant.

When understood in the foregoing context, Appellant contends that one must determine that the type of information Chen teaches as being provided on the cyber wallet is of a limited nature, as it must work with existing credit processing systems. Appellant contends that it is well known in the art what type of information is needed to process a credit card transaction. This information may include: an account name, an account number, an expiration date and, sometimes such as when a debit card is used, a PIN. Occasionally, other information is required to verify a user's authority to utilize a credit/debit card, such as, an identification of the user's mother's maiden name or the like. However, such additional verification is commonly accomplished verbally and is not provided on a credit or debit card for obvious security purposes.

Appellant contends Chen's "account information" is not "registration information," because Chen's "account information" is insufficient to register a user with a node as provided in the specification and drawing Figures for the present application. Account information is not commonly used for registering users, because it merely identifies an user's account and provides little if any information about an actual user.

The Examiner would appear to disagree with the Appellant's position and considers "account information" to necessarily be equivalent to or include "registration information." In particular, Appellant respectfully draws the Board's attention to column 4, lines 63 – 66, which is the section relied upon by the Examiner in issuing the Final Office Action of November 13, 2002, paper number 10 (hereinafter, the "FOA"), from which the present Appeal has been filed. In the FOA, the Examiner asserted that she "believed" that Chen teaches the limitation of supplying registration information to multiple network nodes because "the personal information taught by Chen (column 4 lines 63-66) corresponds to the registration information as claimed in the present application." (FOA, page 3). However, upon closer look, it becomes clear that the "personal information" cited by the Examiner in Chen is actually "account and/or personal information required to be transmitted to the account servicer in order to verify the

account status ...” (Chen, column 4, lines 63-66 (emphasis added)). When further read in the context of the rest of Chen’s disclosure, Appellant contends that one must reasonably determine that Chen teaches communicating only that information necessary to process a credit/debit card transaction. Such information, whether classified as “account” or “personal” is arguably, an account number, an account name, an expiration date and, perhaps, a PIN. Also, verbal or typed information may be provided, real-time, by the user to verify authorization to use a credit/debit card. Appellant contends, however, that just as such latter information is not generally included in the magnetic encoded account information provided on credit/debit cards, Chen would not include such information on a cyber wallet.

Appellant is unaware of any other section of Chen which specifies the type of information to be transmitted. In fact, Chen specifically states that his invention does not specify what type of information is needed to be transmitted because “the particular information contained on the card will vary depending on the requirements of the account servicer, ... **These elements per se are not part of the invention, but rather it is their combination with the public key file and the manner in which they are used to carry out a transaction that constitutes the invention.**” (See, column 5, lines 12 – 18, emphasis added). Since Chen does not describe, in any detail, the type of information being sent, Appellant contends that Chen does not enable and therefore can not anticipate that which it does not even describe – namely Appellant’s claimed invention.

To additionally support the Appellant’s contention that Chen teaches sending only payment or account information, Appellant directs the Board’s attention to the following sections of Chen, which describe the types of “information” utilized to generate a cyber wallet:

Column 4, lines 55 – 58: “payment information is transferred from a user to a merchant processor in the form of a public key encrypted authorization ticket, which is then forwarded by the merchant to the credit processor”;

Column 5, lines 41-44: “the cyber wallet includes what ever information is needed by the account servicer to authorize a transaction and ... a plurality of public keys”; and

Column 6, lines 12 – 18: “[f]irst, the wallet is created by the account servicer or provider under secured conditions, by gathering together all information necessary to carry out credit transactions remotely over the Internet, including browser/mosaic software, if necessary, account information, a user PIN number, a user ID, MAC, and any other information which might be needed during the payment and authentication process.”

Based upon the foregoing and other sections of Chen, Appellant contends that one skilled in the art would understand the teaching of Chen as being limited to transmitting, via a merchant, to an account servicer that limited information necessary for the account servicer to authorize a credit/debit card transaction. As noted previously, an objective of Chen is to provide a system “which uses the existing credit card verification and servicing infrastructure ...” (see Col. 3, lines 57-58). Appellant contends that the “existing credit card verification and servicing infrastructure” is not configured to supply registration information to a third node or requested and that one skilled in the art would not even consider utilizing a credit card processing system for such a purpose. Therefore, since Chen clearly and irrefutably teaches a method for securing credit card transactions, it should not be interpreted, using 20-20 hindsight, as teaching a system/method which it clearly did not contemplate, disclose, describe or enable - the presently claimed method of storing, providing access to and supplying registration information to a plurality of nodes.

Appellant further contends that the foregoing is not the only teaching in Chen of relevance to this Appeal. For purposes of discussion only, even if one were to interpret the account information stored on a Chen cyber wallet as encompassing “registration information,” Chen does not teach, discuss, enable or describe a system in which such information is supplied to a merchant (*i.e.*, a requested or third node). Specifically, in Chen, an encrypted authorization ticket is transmitted from the user to the merchant. The merchant then forwards the still encrypted authorization ticket, plus some purchase details, to the account servicer (see, Chen, column 5, lines 45 – 60). Appellant contends that the authorization ticket is merely forwarded and is not opened or received by the merchant (who effectively acts merely as a conduit) because the merchant does not possess the private key necessary to decrypt the encrypted authorization ticket. Thus, in Chen, the “account information” is not “supplied” to the merchant. Also, the

account information contained in an authorization ticket can not be accessed by the merchant unless the merchant is provided with the private key – which the user/cyber wallet does not even possess.

Similarly, Appellant also contends that, in Chen, the account information provided in the authorization ticket is not “supplied” to the account servicer. Since, the account servicer in Chen is responsible for verifying the authenticity of the account information contained in an authorization ticket, Appellant contends that the account servicer could not verify account information which it does not already possess or can not readily access. Thus, Appellant contends that an authorization ticket does not supply an account servicer with information. The authorization ticket simply provides an encrypted identifier, wherein the identifier may include an account name, an account number, an expiration date and/or a PIN, which enables the account servicer to access the appropriate, secure database and determine whether a given user is authorized to utilize a credit/debit card for a transaction of a specific amount. In Chen, account information is not truly “supplied” to the account servicer, because the account servicer presumably already has access to such information.

To summarize, Appellant contends that Chen teaches a system/method for securing e-commerce transactions. Such transactions are secured by not providing merchants with account information (such as an account name, number and expiration date – as is used in credit card transactions). Instead, Chen utilizes encrypted “authorization tickets” which are passed, unencrypted, by merchants to an account servicer for verification and authorization that a user can charge the amount of a specific transaction to a pre-existing account. Therefore, Chen merely provides a security system/method for e-commerce transactions which bears little, if any, resemblance to Appellant’s registration system and method.

b) Comparison of Chen to Claim 1

Based upon the foregoing, Appellant contends that one can not properly interpret Chen as teaching each and every element set forth in independent claim 1. As discussed hereinabove, claim 1 essentially provides that “registration information” is communicated to multiple nodes on a network. More specifically, Appellant contends that such “registration information” is provided for “registering the user at [a] third node.” As such, Appellant contends that there are many clear and significant distinctions between the teaching of Chen and the pending claim 1, some of which are discussed in greater detail hereinbelow.

i) Chen Does Not Anticipate “Registration Information”

The first clear distinction between the teaching of Chen and the system and method described in the present application relates to the type of information communicated in the respective systems/methods. More specifically, in Chen, the type of information is limited to “electronic payment information” or “account information” (*i.e.*, information that is already known by third parties). In Chen, such information is used for transaction authentication or authorization by, presumably, a node already in possession of such information.

In contrast, in pending claim 1, the type of information stored and supplied is unique “registration information” provided by a user and used in registering a user at a node. As discussed with reference to Figure 3, “registration information” clearly goes beyond merely providing a user name and account number (*i.e.*, a pointer to a data record as provided for in Chen). Instead, claim 1 provides for storing, providing access to and supplying “registration information.” As discussed in the specification and drawing figures, registration information includes basic information (such as a name, e-mail address, gender, date of birth), expanded information (such as, an employer, type of employment, income, credit card number(s), social security number, household size, children, children’s age, and could also include shoe size, pant size, hat size, psychographic information and the like), as well as other information. Appellant argues that the cyber wallet discussed in Chen simply does not teach, enable, discuss or describe the storage, providing access to or supplying of “registration information.”

If one accepts Appellant's position that Chen does not teach registration information, then one must conclude that Chen does not anticipate claim 1. As shown in the attachment, claim 1 clearly provides "first storing registration information ... second storing of said registration information ... permitting access to [either storage of] said registration information ... [and] supplying ... said registration information [to a requested node]." Chen can not anticipate operations with respect to information when Chen has neither described, contemplated nor enabled such operations. Nor can Chen anticipate operations being performed upon information (such as the storing, accessing or supplying thereof), when Chen is specifically designed to prevent accessing and dissemination of such information.

As discussed previously hereinabove, the presently pending claim includes specific operations - each of which must be set forth in Chen in order to anticipate claim 1. The fact that Chen does not anticipate any of these operations is further set forth hereinbelow. To repeat, and for ease of reference, these operations are:

- (1) storing registration information related to a user at a first node on a network;
- (2) storing the registration information at a second node on the network (*i.e.*, a node that is different from the first node);
- (3) providing the user with an identification code that permits access to the registration information at either of the first or second nodes; and
- (4) supplying a requested node with:
 - (i) the user identification code; and
 - (ii) the registration information transmitted from either the first or second node;in order to register the user at the third node.

ii) Chen Does Not Anticipate Storing Registration Information in Either or Both of a First and Second Node

Even if one were to conclude that “account information,” as set forth in Chen, was broad enough to encompass “registration information,” Appellant contends that Chen still can not anticipate the invention claimed in pending claim 1 because of the clear distinction that exists between the teaching of Chen and the invention of claim 1 as to whether information is stored on a first node and a second node of a network.

For purposes of this discussion only, Appellant appreciates that the one might interpret Chen as teaching storing some “information” on a first node (perhaps, the cyber wallet possessed by the user) and storing the “information” on a second node (perhaps, with the account servicer). (Note: The Examiner, in the FOA, suggested that she was associating the first node with the cyber wallet and the second node with the “server side” – which Appellant assumes to mean the account servicer.) Yet, Appellant contends that such an interpretation is not supported by Chen because Chen does not describe what information, if any, is stored on any node. Instead, Chen provides that “the wallet is created ... by gathering together all information necessary to carry out credit transactions remotely over the Internet ...” (Chen, column 6, lines 12-27). The foregoing Chen passage does not teach or even suggest that all or any specific portion of the account information is stored on the cyber wallet or at the account servicer (*i.e.*, at the first or second stores – as required by pending claim 1) or, indeed, at any specific location. As such, Appellant contends that the Examiner has not established a *prima facie* case showing how this limitation is taught, let alone, anticipated by Chen.

iii) Chen Does Not Anticipate Accessing Information Stored at Either Node

Appellant contends that the Examiner has also not met her burden to show how the third element, “providing the user with a user identification code permitting access to said registration information in at least one of said first and second stores,” is taught by Chen. In particular, Appellant notes that Chen does not teach that a user can access an account servicer’s database (*i.e.*, the second store). As shown in Figure 1 of Chen, a direct connection between the user and the account servicers is not even provided. Thus, one can not reasonably interpret Chen as teaching providing access to information stored at the second (account servicer) node.

Nor, for that matter, does Chen provide “access” to any information stored in a user’s cyber wallet (*i.e.*, the first store) regardless of whether the cyber wallet is in the form of a smart card or on the user’s computer. Chen merely provides a cyber wallet, generated by the account servicer, for use by the user “on a tamper resistant electronic storage medium such as a smart card or stored on the customer’s computer” (Chen, column 4, lines 2-4). While the Examiner relies upon a passage from column 5, lines 6-8 as corresponding to this limitation, it is clear from the preceding sentence, “which will enable the customer to utilize the wallet ...,” (Chen, column 5, lines 1-10) and the remainder of this paragraph, that Chen is referring to use of the cyber wallet, not access. In short, Chen clearly does not allow users to access the account information stored on either the first node or the second node.

As discussed in the Chen background section, merchants were concerned with verifying a user’s authority to use a given credit card. Thus, PINs, digital signatures and other mechanisms were adopted to assist merchants in verifying authorization to use a card – which is different than authorization to “credit” or “debit” a given amount to/from an account. Thus, if the user were able to “access” the information stored on the cyber wallet, then merchants and/or account servicers would, most likely, again be concerned with whether a user’s authorization can be verified when the information contained in the cyber wallet is readily accessible by the user. In particular, if a user could access the information on a cyber wallet, they could then possibly change account name(s) associated with account number(s), hack into account servicer systems and/or perform various undesirable activities. One merely needs to consider the mischief that

could be done if one could access the information contained in traditional credit cards, let alone information contained in a cyber wallet (which may contain information for many credit cards). Thus, Chen clearly teaches away from providing access to the information contained in either a cyber wallet or at the account servicer and, hence, does not anticipate pending claim 1.

iv) Chen Does not Anticipate Providing a Requested Node with a User ID Code

Another element in pending claim 1, which Appellant contends is not anticipated by Chen is the supplying of a user identification code to a requested node. Appellant contends that Chen taken as a whole specifically teaches away from providing merchants (*e.g.*, the requested node) with access to the information contained in the cyber wallet. Clearly, if one were to provide a merchant or any other third person with access to a user's PIN or other ID code, in Chen's environment, many non-desirable activities could occur, such as improper transactions. It is the implicit, if not explicit, lack of trust of on-line merchants that Chen is directed to solving by not allowing merchants to access a user's account information. As such, it seems unreasonable that, in Chen, one would provide a unique PIN or other ID code to any merchants.

Yet, in the FOA, the Examiner relied upon column 5, lines 6-8 as teaching this very concept, namely, the providing of the user identification code to the merchant (*i.e.*, the requested node). Using simple logic, Appellant contends the Examiner's reliance upon this section is misplaced. Also, setting logic aside, this section, in and of itself does not support the Examiner's interpretation because it merely provides:

For some purposes, information in the wallet could also be accessible solely through the use of a PIN mechanism ...
(column 5, lines 6-8).

It is worth noting that nowhere does this section provide for "supplying ... [a] requested node [with the] user identification code" as is claimed in pending claim 1. In fact, Chen, read in its entirety, irrefutably teaches away from supplying user identification codes to merchants (*i.e.*, requested nodes). The whole purpose behind providing a PIN with the cyber wallet is to "unlock the information stored in the wallet" upon the card being inserted into a card reader (see, column 6, lines 38 - 44). Presumably, the card is inserted into the card reader under the direction

and control of the user and the PIN is presumably not provided to the merchant. In short, Chen uses PINs to prevent utilization of information contained in a cyber wallet. Presumably, this use of PINs is the same as the use of PINs with credit and/or debit cards. Chen does not provide a user identification code in order for the user to access registration information provided to at least one third node. Thus, Chen does not anticipate this element either.

v) Chen Does Not Anticipate Supplying Information of any Type Including User Identification Codes Nor Registration Information to a Requested Node

Appellant contends that, in Chen, information is not supplied to a requested node – it is merely transmitted by the requested node, in an encrypted format, to a node already in possession of the information. As discussed hereinabove, pending claim 1 provides “supplying to at least one requested node ... [the] registration information transmitted from one of the first and second stores.” Chen clearly does not teach supplying registration information to a requested node. In fact, it teaches the exact opposite.

The essential purpose behind the Chen invention is to carefully protect information – not to supply it to others.

For sake of discussion only, if one takes the position that the first node is the user’s cyber wallet and the second node is the account servicer, then one must assume that the merchant is considered to be the requested node. Under this interpretation, to anticipate claim 1, Chen must teach supplying the registration information to the merchant.

However, Chen teaches the exact opposite. Chen teaches away from the invention claimed in pending claim 1 because, Chen teaches that the account information is not to be provided to the merchant (*i.e.*, the requested node) because there is no reasonable assurance that the merchant can be trusted with such information. Indeed, the very purpose of Chen is to facilitate the bypassing of the merchant so as to not provide the merchant with registration information. In contrast, pending claim 1 is specifically directed to providing the requested node or “merchant” with such information. As discussed previously hereinabove, Chen teaches providing merchants only with an encrypted “authorization ticket.” The merchant can not

decrypt the “ticket” and merely transfers such ticket (in its original encrypted form) to the account servicer (*i.e.*, the second node). The account servicer then uses the private key (which neither the merchant nor the user possess) to decrypt the authorization ticket, verify the authenticity of the information contained in the ticket and to authorize the transaction.

Quite clearly, Chen does not teach supplying a third node with the registration information.

c) Conclusion

Appellant contends that none of the limitations in pending claim 1 are taught by Chen because Chen does not provide for the storing of registration information at multiple nodes on a network nor providing a user identification code permitting access to the stored information nor supplying both the user identification code and the registration information to a requested node for purposes of registering the user at the node. Chen does not teach, enable nor describe the invention claimed in pending claim 1. Appellant respectfully requests the Board to reverse the Examiner’s finding that Chen anticipates independent claim 1 and to direct the Examiner to allow such claim to issue.

3. Construction of Dependent Claims 3, 6 and 7 and Comparison of Chen Thereto

With regards to dependent claims 3, 6 and 7, Appellant contends that these claim stand or fall with claim 1. As such, please see the preceding arguments with respect to claim 1 as to why such claims are patentable over Chen. Appellant respectfully requests the Board to reverse the Examiner’s finding that Chen anticipates claims 3, 6 and 7 and to direct the Examiner to allow such claims to issue.

4. Construction of Dependent Claims 4 and 5 and Comparison of Chen Thereto

Appellant respectfully contends that for the reasons set forth above with respect to claim 1, claims 4 and 5 are also patentable over Chen. Additionally, Appellant contends that claim 4 teaches that the registration information may be modified at one of the first or second stores and that such modifications are communicated to the other of the first and second stores.

In essence, this claim provides that modifications to the registration information may be accomplished and that such modifications will be communicated to the other node at which the registration information is stored. Appellant notes that in the First Office Action, dated October 23, 2001, the Examiner cited column 3, line 33 to column 7, line 9 (*i.e.*, the entirety of the Chen Summary of Invention and Detailed Description sections) as teaching this limitation. Appellant respectfully disagrees with the Examiner's interpretation of Chen, because Chen specifically provides that the cyber wallet is "created by the account servicer or provider under secured conditions The entire wallet is then provided to the customer." (See, column 6, lines 12 - 22) In short, the entirety of Chen teaches away from the Examiner's characterization that Chen enables both the user and the account servicer to modify the information on the cyber wallet.

The Examiner's characterization is counter-intuitive when Chen is read in its entirety. As one may recall, Chen is directed towards providing a secure e-commerce transaction authorization system. If users, such as those in possession of the cyber wallet (*i.e.*, the first store), were able to modify the information on the cyber wallet, then the entire system would be suspect. This is so because account servicers could not rely upon the account numbers and identifiers, as provided in the authorization ticket, as being accurate. Thus, Chen can not be logically read as teaching the limitation set forth in claim 4.

With respect to claim 5, this claim provides that the modification is transmitted to the third node. Again, Appellant contends that Chen does not teach providing the "account information" or the "registration information" to a third node, because the authorization ticket is encrypted and only the account service provider has the private key. Thus, Chen can not reasonably be interpreted as teaching providing a modification to encrypted information. Stated differently, Chen does not teach decrypting the authorization ticket and then modifying the information contained therein. Chen does not even describe a system or method which enables the account service provider (who possesses the private key) to make such changes. Thus, Chen does not teach, discuss, suggest, describe nor enable a system or method whereby a merchant could modify the information contained in the authorization ticket.

As such, for the reasons set forth with respect to claim 1, as well as those set forth immediately hereinabove, claims 4 and 5 are further clearly patentable and not anticipated by Chen. Appellant respectfully requests the Board to reverse the Examiner's finding that Chen anticipates claims 4 and 5 and to direct the Examiner to allow such claims to issue.

5. Construction of Dependent Claim 8 and Comparison of Chen Thereto

Appellant respectfully contends that for the reasons set forth above with respect to claim 1, claim 8 is also patentable over Chen. Additionally, Appellant respectfully contends that claim 8 also teaches limitations that are not taught by Chen. Specifically, claim 8 further provides that user identification is input at the first node, the identification is transmitted to the second node and the second node uses the user identification to determine the user identification code supplied to a requested node. In rejecting this claim, the Examiner relied, without specificity, upon the entire Chen specification. Appellant contends that nowhere does Chen teach, mention, enable, suggest, nor describe the limitations set forth in pending claim 8.

Appellant respectfully requests the Board to reverse the Examiner's finding that Chen anticipates claim 8 and to direct the Examiner to allow such claim to issue.

6. Construction of Dependent Claim 9 and Comparison of Chen Thereto

Appellant respectfully contend that for the reasons set forth above with respect to claim 1, claim 9 is also patentable over Chen. Additionally, Appellant respectfully contends that claim 9 also teaches limitations that are not taught by Chen. Specifically, claim 9 further provides that the requested node requests the registration information from the second node. For sake of discussion only, when put in the context of Chen, wherein one might conceivably interpret the requested node as being a merchant and the second node as being the account servicer, Appellant contends that there is nothing in Chen which teaches, mentions, suggests, enables or describes the merchant as requesting account information from the account servicer. While a communication does occur in Chen between the merchant and the account servicer, such communication is merely to facilitate authorization of a transaction, without concern for the content of the specific account information involved. As is a common occurrence every day,

a merchant merely receives an authorization code from an account servicer. The merchant does not receive nor is she/he interested in specific account information.

Similarly, when read in the context of the second node being the cyber wallet, again Chen does not teach the merchant node requesting such registration information or even account information. As stated hereinabove, Chen is specifically directed away from providing account information to merchants. The need in the then prior art to provide such account information to merchants was the very problem Chen was attempting to solve. As such, to suggest that Chen teaches a merchant requesting information, which the entire Chen system and method was specifically invented to guard against the dissemination thereof, is clearly illogical and inconsistent with the entirety of Chen.

In conclusion, Chen can not be logically read and interpreted as teaching that merchant nodes request account information from cyber wallets or account servicers.

Therefore, Appellant respectfully requests the Board to reverse the Examiner's finding that Chen anticipates claim 9 and to direct the Examiner to allow such claim to issue.

7. Construction of Independent Claim 10 and Comparison of Chen Thereto

Appellant respectfully contend that for the reasons set forth above with respect to claim 1, independent claim 10 is also patentable over Chen. Additionally, Appellant notes that independent claim 10 was rejected by the Examiner "for similar reason as claim 1." Appellant notes that, while some of the terms used in claim 10 are similar to claim 1, the practical effect of how the method of claim 10 operates is significantly different than claim 1, as is further discussed hereinbelow. As such, at a minimum, Appellant contends that, again, the Examiner has not met her burden of establishing a *prima facie* case as to why claim 10 is anticipated by Chen.

Notwithstanding the foregoing, Appellant notes that claim 10 basically provides for manually inputting registration information at a first node. The registration information is transmitted from the first node to a second node. Further, a user identification code is provided

to the user which permits the user to access the registration information at the second node. The user identification code is also transmitted from the first node to a requested node. And, registration information is transmitted from the second node to the requested node upon receipt of information identifying the user identification code. Appellant respectfully contends that this method is not taught by Chen and is significantly different than that claimed in pending claim 1. Appellant contends that the differences between claim 1 and 10 are apparent on their face and respectfully request the Board to compare such claims, side-by-side, if necessary.

Additionally, Appellant argues that Chen does not anticipate claim 10. Assume, for example and for sake of this argument and discussion only, that one were to interpret the first node to be the Chen cyber wallet. Under this interpretation, the user would have to be able to manually input information into the cyber wallet and transmit such information from the wallet to a second node (*i.e.*, either the merchant or the account servicer). However, when this interpretation is applied to Chen, inconsistencies quickly appear. For example, Chen apparently teaches away from this interpretation because “the wallet is created by the account servicer or provider under secured conditions by gathering together all information necessary ...” (column 6, lines 12 – 14). Thus, one can not construe claim 10 as providing for the first node being the cyber wallet.

However, it seems that in order for Chen to teach claim 10, just such an inconsistent interpretation is necessary because claim 10 includes “transmitting said user identification code from said first node to at least one requested node.” Again, Chen teaches that the “authorization ticket” is communicated from the cyber wallet to the merchant and then from the merchant to the account servicer. Thus, one can not interpret Chen as anticipating claim 10 because in Chen there is no “node” which can possibly perform the steps of both manually inputting registration information and transmitting a user identification code to a requested node.

Appellants contend that other inconsistencies arise when one attempts to read Chen as teaching claim 10, regardless of whether one assumes that the first, second and requested nodes are, in any combination thereof, the cyber wallet, the merchant or the account servicer.

As such, for the foregoing reasons, Chen does not anticipate the methodology set forth in claim 10. Appellant respectfully requests the Board to reverse the Examiner's finding that Chen anticipates independent claim 10 and to direct the Examiner to allow such claim to issue.

B. Rejection of Claims 1 and 3 – 10 under 35 U.S.C. 101 (Double Patenting Rejection)

In the First and Final Office Actions, the Examiner rejected currently pending claims 1 and 3 – 10 under 35 U.S.C. 101 as claiming the same invention as that of claims 1 and 3 – 10 of prior U.S. Patent No. 5,790,785 (hereinafter, the "'785 Patent").

In determining whether double patenting exists, the Supreme Court has held that 35 U.S.C. 101 applies only when the claims in the pending application and the claims in the reference patent or application (*i.e.*, for purposes of the present Appeal, the '785 Patent) are for the "same invention." *See, Miller v. Eagle Mfg. Co.*, 151 U.S. 186, 196 (1894) ("[N]o patent can issue for an invention actually covered by a format patent, ... although the terms of the claims may differ; ... but ... where the second patent covers matter described in the prior patent, essentially distinct and separable from the invention covered thereby, and claims made thereunder, its validity may be sustained.") Thus, under *Miller*, the standard for double patenting, for the present case, is whether the subject matter described in the '785 Patent is essentially distinct and separable from the invention covered by claims 1 and 3 – 10 of the present application. Appellant asserts that such distinctions do exist.

However, before examining the distinctions between the presently pending claims and those in the '785 Patent, Appellant notes that the Court of Customs and Patent Appeals, in *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970), set forth a two part test for determining whether double patenting exists between two applications and/or patents. This two part test has subsequently been followed by the Federal Circuit in *In re Goodman*, 11 F.3d 1046, 29 U.S.P.Q.2d 2010 (Fed. Cir. 1993).

Essentially, the first part of the *Vogel* two part test is whether the same invention is being claimed twice; wherein "by 'same invention' [the Court] mean[s] identical subject matter. Thus, the invention defined by a claim reciting 'halogen' is not the same as that defined by a claim

reciting 'chlorine' because the former is broader than the latter." *In re Vogel*, at 924. To assist with this determination of whether claims cover the "same invention," the CCPA promulgated an objective test, namely, "whether one of the claims could be literally infringed without literally infringing the other. If it could be, the claims do not define identically the same invention.... If it is determined that the same invention is being claimed twice, 35 U.S.C. § 101 forbids the grant of the second patent If the same invention is not being claimed twice, a second question must be asked." *In re Vogel*, at 924. The second part of the *Vogel* two part test is whether the claimed invention is merely an obvious variation. *Id.*

1. Comparison of Pending Claims 1 and 3 – 10 to Issued Claims in '785 Patent

As discussed above, the Courts have clearly stated that the first step in determining whether statutory double patenting exists is to compare the pending, or at issue, claims with the reference (or, '785 Patent's) claims. Appellant provides such a comparison hereinbelow with reference to independent claim 1. In providing such reference, Appellant identifies that claim language which is common to both the claims on appeal and the '785 Patent by using the normal font. Further, claim language that is unique to the '785 Patent is identified in **bold**, while claim language that is unique to appealed claims is identified in *italics*. Using this format, the comparison between pending claim 1 and claim 1 of the '785 Patent yields the following result:

1. A method for registering a user at a plurality of user requested nodes of a communications network wherein nodes of the network are identified using an Internet addressing scheme, comprising:

first storing registration information related to the user in a first data store on a first node of said network[, **said registration information including demographic information regarding the user that is useful by web site operators in monitoring web site usage**];

second storing [*of*] said registration information in a second store on a second node of said network, said second node being different from said first node;

providing the user with a user identification code permitting access to said registration information in at least one of said first **[data**

store on said first node] and said second store[s] [on said second node];

supplying to at least one requested node of said plurality of requested nodes: (a) said user identification code for registering the user at said at least one requested node, and (b) said registration information transmitted from one of said first [data store on said first node] and [said] second store[s] [on said second node] for registering the user at said at least one requested node [, wherein the user can automatically provide said registration information, including said demographic information useful for monitoring web site usage, to said at least one requested node].

As shown above, Appellant contends that pending claim 1 and claim 1 of the '785 Patent do not cover the "same invention" because they do not cover the "identical subject matter" as required by *In re Vogel*. Appellant contends that just as 'halogen' and 'chlorine' do not cover the same invention, "registration information" (as used in pending claim 1) does not cover the same subject matter as "registration information including demographic information ...useful by web site operators in monitoring web site usage" (as set forth in claim 1 of the '785 Patent). To repeat the words set forth in *In re Vogel*, the former ("registration information") is broader than the latter ("registration information useful by web site operators"). In essence, claim 1 of the '785 Patent is directed towards a narrower and more specific type of "registration information," namely, that which includes information useful by web site operators. In contrast, pending claim 1 does not define or limit the types of registration information that are provided using the described method. Thus, Appellant contends that a simple reading of these claims begs the conclusion that pending claim 1 does not claim the same invention as claim 1 of the '785 Patent.

Even if one were not to agree with the Appellant's contention, that on their face, pending claim 1 and claim 1 of the '785 Patent do not cover the same invention, the objective test set forth in *In re Vogel*, and discussed hereinabove, clearly leads one to conclude that different subject matter is in fact claimed in the respective application/patent. This conclusion is reached because one can literally infringe pending claim 1, without literally infringing claim 1 of the '785 Patent by storing registration information at the first or second nodes which is not useful by web

site operators in order to monitor web site usage. To clarify and make meaningful the distinction between registration information, but that which would not be useful in monitoring web site usage, please refer to the specification for the present application at page 18, lines 10-18, which provides:

In particular, a third party web site may request: (a) basic information as discussed in step 308 of Fig. 3, (b) expanded information as discussed in step 312 of Fig. 3; (c) custom information, wherein selected fields from the basic and expanded information are provided; and **(d) proprietary information wherein one or more additional user related information items may be provided wherein these items have been obtained by the registrar web site 100 by, for example, enriching and verifying the registration information obtained from the use in step 256 of Fig. 2B.**
(emphasis added)

In particular, Appellant directs the Board's attention to section "(d)" of the foregoing passage. This section provides that the third party web site (*i.e.*, the "requested node") may request and receive "proprietary information." Appellant contends that such "proprietary information" is not useful for monitoring web site usage because it is not provided by nor identified when a user accesses or uses a web site. The "proprietary information" is provided/obtained from other persons/entity besides the user. The passage above further provides that such "proprietary information" may be used to enrich or verify the information provided by a user and/or others. Again, such "proprietary information" is not useful for monitoring usage because it exists separately and distinctly from a user's usage of a web site. Appellant believes that most people appreciate that "proprietary information" about users can be obtained from others. Examples include credit reporting agencies (*e.g.*, EquiFax and Transamerica) and data enhancement or enrichment companies including Axiom, Yankelovich, Scarborough, Simmons and Looking Glass.

However, "proprietary information" is not the only type of information which may infringe claim 1 of the pending application while not infringing claim 1 of the '785 Patent. Other types of information which is not "useful for monitoring web site usage" may include: a user's name, age, shoe size, city, psychographics and/or similar information. Appellant contends that

such information, in and of itself, is not useful in “monitoring web site usage”, but, may be useful for other purposes.

In particular, such information may indicate why a user is interested in a particular web site, for example, because they like outdoor activities and thus may desire to visit an outdoor supplies retailer such as the EMS or the REI web sites. But, this information, generally, is not useful for monitoring web site usage because it merely indicates preferences and does not indicate actual use. In short, the foregoing types of information (and/or other information) does not distinguish users of a given web site from non-users. As such, it would not be useful for web site monitoring purposes as that term is generally understood.

Thus, one might ask, “what type of information is ‘useful by web site operators in monitoring web site usage?’” While recognizing that this category of information may vary by the type of web site and the type of monitoring being conducted, Appellant suggests that examples of such information may include: whether the user is accessing the web site using a fixed or dynamic connection; the speed at which a given user connects; the frequency of connecting; the network (or ISP) by which the user connects; whether encryption is used during the connection; whether “cookies” or other types of usage monitoring software is enabled or disabled; whether a Mac, Linux, Unix or a Windows operating system utilized; the type of browser (*e.g.*, Netscape, AOL, or Explorer); and similar information may be “useful for monitoring web site usage.” In general, Appellant believes that this list provides examples of “information” related to usage, not information related to preferences, interests, demographics, or other “basic,” “expanded,” “custom,” and/or “proprietary” information.

2. Clarification from Prosecution History

During the prosecution of the ‘785 Patent, from which the present application is a continuation, the Appellant then argued that:

[The claims in the ‘785 Patent are] directed to facilitating monitoring web site usage. Web site operators desire to monitor site usage so as to better target the web site content towards site visitors, to determine what fees may be charged by web site

developers and/or to most effectively use web site advertisements and the like. Accordingly, web sites often require visitors to 'register' by providing certain personal or demographic information Accordingly, the invention involves controlling dissemination of demographic information across a network, not controlling access to particular resources within a network for security purposes.

(U.S. Patent Application Serial Number 08/595,837, Amendment and Response to Office Action dated December 1, 1997).

As argued in the above cited passage, "demographic information useful for monitoring web site usage" is directed towards information different than that provided merely to register a user with a site. Such distinction was previously argued as being important for purposes such as advertising. Clearly, one can not advertise web sites without knowing how a user can be contacted (*e.g.*, via an e-mail address or an IP address). The opposite is also true. One need not know that a user drinks Coke in order to market Coca-Cola products to such user. Often, the purchase of advertising is to attract a user to new products or services – such promotional/advertising schemes do not need to know "basic," "expanded" or "proprietary" information about a user in order to monitor the usage of a web site. The web site operator generally needs to know how many users at a web page clicked, for example, on a given banner ad. Such information is generally not obtained based upon user "registration information."

Therefore, Appellant contends that "registration information" is much broader and not limited to "demographic information ... useful by web site operators in monitoring web site usage." Pending claim 1 does not cover the same invention as claim 1 of the '785 Patent.

Similarly, since pending claims 3 - 9 depend from pending claim 1, Appellant asserts that such claims also do not cover the same invention as claims 3 - 9 of the '785 Patent. Lastly, with regards to pending claim 10, Appellant asserts that the distinctions set forth above with respect to claim 1 also exist in claim 10. Namely, pending claim 10 is not limited to including "demographic information ... useful by web site operators in monitoring web site usage." In contrast, claim 10 of the '785 Patent is so limited.

With regards to the second part of the *In re Vogel* double patenting test, *i.e.*, whether obviousness double patenting exists, Appellant notes that this rejection has not been raised by the Examiner and thus it is not currently before the Board. However, even if the Examiner were to rescind her statutory double patenting rejection (as Appellant strongly believes the Examiner should so do) and then assert an obviousness double patenting rejection, Appellant notes that currently Appellant is not aware of any prior art of record which teaches each of the limitations of the pending claims. Appellant contends that the Examiner could not support an obviousness double patenting rejection without relying upon the teachings and specification set forth in the present application and the '785 Patent. As stated in *In re Vogel*, "in considering [whether any claim in the application defines merely an obvious variation of an invention disclosed and claimed in the patent] the patent disclosure may not be used as prior art." *Id.* Thus, Appellant believes that the Examiner also could not set forth a *prima facie* obviousness double patenting rejection based upon the prior art of record.

Therefore, Appellant respectfully requests the Board to reverse the Examiner's finding that the pending claims of the present application and those in the '785 Patent are directed to the same invention. Appellant respectfully requests the Board to reverse the outstanding statutory double patenting rejection and to direct the Examiner to allow issuance of the present application.

C. Closing


In closing, Appellant contends that the claims pending in the present application are not anticipated by Chen, for the various reasons set forth hereinabove, because Chen does not teach any and/or each and every of the limitations set forth in each of the pending claims. Specifically, Chen does not provide for the storing, providing access to, or supplying of registration information to a multitude of nodes on a network.

Further, Appellant contends that each of the pending claims cover separate inventions that are not covered by any of the claims in the '785 Patent. As such, the Appellant contends that the statutory double patenting rejection is improper and that an obviousness type double patenting rejection would also be improper.

Therefore, Appellant respectfully requests the Board to reverse the Examiner's 102(e) rejection and the statutory double patenting rejection and to instruct the Examiner to allow each and all of the pending claims to issue.

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Respectfully submitted,
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Claims Pending On Appeal
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1. (Original) A method for registering a user at a plurality of user requested nodes of a communications network wherein nodes of the network are identified using an Internet addressing scheme, comprising:

first storing registration information-on related to the user in a first data store on a first node of said network;

second storing of said registration information in a second store on a second node of said network, said second node being different from said first node;

providing the user with a user identification code permitting access to said registration information in at least one of said first and second stores;

supplying to at least one requested node of said plurality of requested nodes: (a) said user identification code for registering the user at said at least one requested node, and (b) said registration information transmitted from one of said first and second stores for registering the user at said at least one requested node.

2. (Cancelled)

3. (Original) A method as claimed in Claim 1, wherein said communications network utilizes an internet protocol.

4. (Original) A method as claimed in Claim 1, further including a step of providing a modification to said registration material on one of said first and second stores to the other of said first and second stores.

5. (Original) A method as claimed in Claim 4, wherein said step of providing includes retaining said modification in said first and second stores, wherein said modification is

transmitted to at least one requested node in said step of supplying from one of said first and second stores.

6. (Original) A method as claimed in Claim 1, wherein said first step of storing includes inputting said registration information by the user.

7. (Original) A method as claimed in Claim 1, wherein said step of second storing includes transmitting said registration information from said first node to said second node using said communications network.

8. (Original) A method as claimed in Claim 1, wherein said step of supplying includes:
inputting user identification from said first node;
transmitting said user identification to said second node; and
using said user identification at said second node for determining said user identification code.

9. (Original) A method as claimed in Claim 1, wherein said step of supplying include requesting, by said at least one requested node, said registration information from said second node.

10. (Original) A method for registering a user at a plurality of user request nodes of a communications network wherein nodes of the network are identified using and internet addressing scheme, comprising:

manually inputting registration information related to the user at a first node of said network;

transmitting said registration information from said first node to a second node of said network;

providing the user with a user identification code permitting access to said registration information at said second node;

transmitting said user identification code from said first node to at least one requested node of said plurality of requested nodes;

supplying said registration information from said second node to said at least one requested node upon receipt of information identifying said user identification code.

Claim 11. (Cancelled)

A WORLD WIDE WEB REGISTRATION INFORMATION PROCESSING SYSTEM

RELATED APPLICATION

This application claims priority from a provisional application filed December 11,
5 1995, entitled "A WORLD WIDE WEB REGISTRATION INFORMATION
PROCESSING SYSTEM" and assigned provisional Serial No. 60/008,736.

FIELD OF THE INVENTION

The present invention relates to a system for assisting World Wide Web users in
registering at World Wide Web web sites. In particular, the present invention provides
10 storage and access to web site registration information provided by a user of the present
invention so that, upon requesting to register at a web site that cooperates with the present
invention, the user can request his/her web site registration information stored by the
present invention to be transmitted to the cooperating web site.

BACKGROUND OF THE INVENTION

15 The World Wide Web (WWW) is a global communications network having a
client-server model as a paradigm for communications. That is, users on client nodes
utilizing so called "web browsers" navigate the WWW to access desired server nodes
(known as web sites) for at least obtaining information from the server nodes such as
hypertext, audio, video, virtual reality, data, etc. For many web sites, it is important to
20 those responsible for the design and maintenance of the web sites that they be capable of
accurately measuring both the number and types of users accessing their web sites. In
particular, such measurements may be important in determining fees that can be charged
by web site developers for building and maintaining a web site. Further, such

information may be useful in determining the degree of interest in services and products by web site users. Thus, in order to obtain these web site measurements, such web sites have begun requesting that each user provide information about himself/herself prior to the web site allowing access to web site services. That is, such web sites require a user
5 to "register" at the web site, wherein the user is required to establish a user identification (user ID) and optionally a password with the web site as well as typically provide personal information such as, for example, the city of residence or family size. However, registering at multiple web sites is burdensome for users in that it is: (a) time consuming, and (b) the user is likely to have different user IDs at different web sites, thus requiring
10 a user to maintain a list of user IDs (and optionally passwords) for the web sites to which he/she is registered.

Therefore, it would be advantageous to alleviate many of the above difficulties by automating the registration process at web sites so that users may register at a single web site and use the information provided at this web site to more easily register at other
15 web sites.

SUMMARY OF THE INVENTION

The present invention is a registration information processing system for the World Wide Web that substantially automates the user registration process at web sites. The registration system of the present invention includes a World Wide Web registration
20 web site wherein a user accessing the World Wide Web can utilize this web site as a repository for registration information so that the user can request this registration information to be transmitted substantially automatically to another web site to which the user desires to register. Furthermore, the present invention provides the user with a

common user ID, and optionally common password, that can be used to access a plurality of web sites so that there are fewer web site user IDs and passwords for the user to remember. Additionally, the present invention may establish the common user ID (and optionally password) through user input such that the user may request a candidate user ID (and optionally password) and, if acceptable, the candidate user ID becomes the common user ID. However, if the candidate user ID is unacceptable (e.g., because it is a duplicate of another user's common user ID), then the present invention provides the user with one or more alternatives for the common user ID (and optionally password) that the user may accept or reject. Further, note that whenever possible the present invention provides the user with alternative common user IDs wherein the alternatives are derived from the candidate user ID provided by the user.

The registration information processing system of the present invention has a first embodiment using a first system architecture wherein a user need not have any modules specific to the present invention loaded on his/her World Wide Web client node. In this embodiment, once the user has provided registration information to the registration web site of the present invention, when the user subsequently requests to register at a new web site cooperating with the registration process of the present invention, then the user provides this new web site with a user ID and optionally password (e.g., the above-mentioned common user ID) for the registration web site of the present invention together with an indication that any further information may be obtained from the registration web site. The new web site subsequently is able to automatically retrieve the user's registration information from the registration web site and register the user at the new web site.

In a second embodiment of the present invention having a second architecture, World Wide Web client nodes have registration modules for the present invention loaded on them so that these nodes may interact with the registration web site for providing user registration information to cooperating web sites to which the user requests to register.

5 In this second embodiment of the present invention, the user's registration information is stored both locally on the user's client node and at the registration web site, the web site being used as a backup. Thus, when the user desires to register at a new web site, the user's registration information is provided to the web site from the registration module residing on the user's client node.

10 In either embodiment, the present invention may also provide a "mass" registration capability, wherein a user may request that the present invention automatically register the user at a plurality of web sites. For example, the user may be provided with a capability to search for web sites cooperating with the present invention by, for example, category and request an automatic registration at multiple web sites
15 substantially simultaneously.

Other features and benefits of the present invention will become apparent from the detailed description with the accompanying figures contained hereinafter.

BRIEF DESCRIPTION OF THE DRAWINGS

Fig. 1 is a block diagram of the web site registration information processing
20 system of the present invention, wherein this system is shown in the context of its connections to various nodes of the World Wide Web;

Figs. 2A and 2B provide a flowchart for describing the steps performed when a user of the World Wide Web explicitly contacts the registrar web site 100 of the present

invention for supplying registration information to be used in registering at third party web sites 116;

Fig. 3 is a flowchart presenting the steps a user of the World Wide Web performs when entering web site registration information into fill-out forms that are to be submitted to the registrar web site 100 of the present invention;

Figs. 4A and 4B present a flowchart for the steps performed when a user of the World Wide Web accesses a third party web site 116, cooperating with the present invention, and in the process of registering at the third party web site the user is automatically put in contact with the registrar web site 100 of the present invention so that registration information may be provided to the present invention for registering the user at the present third party web site as well as other third party web sites that the user may subsequently request;

Fig. 5 is a flowchart of the steps performed by the present invention when transferring user registration information from the registrar web site 100 to a third party web site 116 to which the user has requested to register;

Figs. 6A and 6B provide a flowchart of the steps performed when supplying a third party web site 116 with registration information from the registrar web site 100, assuming that the third party web site has requested such information and that the request has been authenticated at the registrar web site 100;

Fig. 7 presents a flowchart of the steps performed by the present invention when supplying a third party web site 116 with user registration information from the user registration information database 144;

Fig. 8 presents a flowchart of the steps performed when storing in the user registration information database 144 a user's ID (and optionally password) relating to a third party web site 116 to which the user is registered via using the present invention;

Fig. 9 is a flowchart of the steps performed when registering at a third party web site 116 using the module 156 of the present invention installed on the user's client node 108;

Fig. 10 is a flowchart of the steps performed when the registration module 156 on the user's client node is utilized in supplying a third party web site 116 with registration information;

Figs. 11A and 11B present a flowchart of the steps performed when a World Wide Web user of the present invention changes his/her registration information stored in the present invention;

Figs. 12A and 12B present a flowchart of the steps performed when the architecture of the present invention includes the registration module 156 provided at the user's client node 108 and the user requests to enter registration information into the present invention using this module; and

Figs. 13A and 13B provide a flowchart of the steps performed when a World Wide Web user requests a user ID for the registration information processing system of the present invention and the present invention includes module 156 on the user's client node 108.

DETAILED DESCRIPTION

Fig. 1 is a block diagram of a web site registration information processing system of the present invention, (hereinafter also denoted by the name "registrar") wherein this

system is shown in the context of its connections to various nodes of the World Wide Web (WWW). In a first embodiment, a web site, denoted the registrar web site 100, provided by the present invention, is connected to the World Wide Web 104 for communicating with both World Wide Web client nodes such as WWW client node 108, and with other web sites such as third party web site 116, wherein the registrar web site 100 facilitates the registration of a user at a WWW client node 108 when this user desires to register at the third party web site 116. In this first embodiment, the user accesses the World Wide Web 104 through a WWW browser 120 on a WWW client node 108 wherein, to use the registration facilities of the registrar web site 100 for registering the user at a one or more third party web sites 116, the user must in some manner request explicit access to the registrar web site 100 for registering his/her registration information to the registrar web site 100. Additionally, in this first embodiment of the present invention, the WWW client node 108 need not have executable program modules designed specifically for interfacing with the registrar web site 100. That is, substantially any conventional World Wide Web browser may be used as the WWW browser 120.

Thus, the first embodiment of the present invention may be described as follows. In order for a user to register at one or more third party web sites 116, the user at a WWW client node 108 accesses the World Wide Web 104 and in a first scenario explicitly navigates through the World Wide Web 104 to the registrar web site 100 wherein a registrar web site 100 home page is communicated back to the user's WWW browser 120. As one skilled in the art will appreciate, program modules 128 (hereinafter denoted "registrar applications") output, to a World Wide Web network server 132, information in, for example, a hypertext markup language (HTML) related to capabilities of the registrar web site 100 in assisting the user in registering at third party web sites 116.

Such outputs from registrar applications 128, are subsequently transmitted, via the network server 132 and the network interface 136, to the user's WWW browser 120 in the hypertext transfer protocol (HTTP), as one skilled in the art will appreciate. Thus, upon presentation of the registrar web site 100 home page on the user's WWW client
5 node 108, the user subsequently may request to provide registration information to the registrar web site 100 so that he/she can have this information at the registrar web site 100 automatically transferred to a third party web site 116 when the user is requested to register at such a third party web site. Subsequently, after the user's request to supply registration information is transmitted to the registrar web site 100 (via World Wide Web
10 104, network interface 136 and network server 132), the registrar applications 128 receive the request and output to the user's WWW browser 120 one or more "web pages" having fill-out forms to be presented to the user via the WWW browser 120. Thus, upon submittal of the filled out forms by the user to the registrar web site 100 (more precisely, the registrar applications 128), the user's registration information is stored in the user
15 registration information database 144.

Following the above registration procedure at the registrar web site 100, the user may then substantially automatically register at various third party web sites 116 that are affiliated with the registrar web site 100 in that an agreement has been reached between each such third party web site 116 and the registrar web site 120 for transmitting a user's
20 registration information to the third party web site 116 when, for example, the user requests such transmittal. Thus, assuming the user accesses the third party web site 116 and, for example, the home page for the third party web site 116 includes a form field allowing the user to specify that the user's registration information is stored and accessible at the registrar web site 100, then the user can submit a response, via the

World Wide Web 104, to the third party web site 116 indicating that the user's registration information should be obtained from the registrar web site 100. Thus, the third party web site 116 requests and receives the user's registration information from the registrar web site 100 and stores the user's registration information in registration information database 148 directly accessible by the third party web site 116. Additionally
5 note that when the registrar web site 100 receives a request from the third party web site 116 for user registration information, a registrar application 128 records the request for the user's registration information in a registrar access log data base 152. Thus, the registrar web site 100 maintains a log of the third party web sites requesting registration
10 information. Further, such third party web sites 116 may periodically provide the registrar web site 100 with information related to the frequency that users registered at the registrar web site 100 have accessed the third party web sites 116. Therefore, by also storing this information, for example, in the registrar access log 152, the registrar web site 100 is able to determine the frequency and type of access of third party web sites 116 by
15 users.

In a second method of using the first embodiment of the present invention, instead of the user explicitly navigating the World Wide Web 104 to the registrar web site 100 for providing registration information, the user may instead access a third party web site 116 wherein the home page or registration page for the third party web site includes
20 input fields allowing the user to request that the registrar web site 100 automatically be accessed so that the user can enter web site registration information at the registrar web site 100 and subsequently use the registration information provided to the registrar web site 100 for automatically registering at the third party web site 116 (as well as other third party web sites that may be subsequently requested). That is, the newly entered

registration information is transferred to the third party web site 116 by entering into a registrar specific portion of the registration form for the third party web site 116 a registrar user identification and optionally a password for requesting that the third party web site access the registrar web site 100 to obtain the user's registration information.

5 Thus, the user's registration information automatically is communicated to the third party web site 116 without the user explicitly having to navigate the World Wide Web 104 and access the registrar web site 100 to register his/her web site registration information.

Note that alternative embodiments are within the scope of the present invention, wherein program modules for the present invention are distributed so that there is an
10 executable module provided on the user's WWW client node 108 for communication with the registrar web site 100 as well as with third party web sites 116 that accept registration information from the present invention. In one embodiment of such a distributed architecture for the present invention, a registrar registration module 156 is integrated into the user's WWW browser 120 for gathering the user's web site registration
15 information and communicating with the registrar web site 100 as well as cooperating third party web sites 116 at which the user desires to register. Such a registration module 156 may provide the user with easier access to his/her registration information since the information resides locally on the user's WWW client node 108 in a persistent nonvolatile storage. Further, the registrar registration module 156 may be activated for entering or
20 updating user registration information without the user necessarily being connected to the World Wide Web 104. Moreover, by integrating the registrar registration module 156 into the user's WWW browser 120, the user is presented with an integrated set of functions for registering and accessing third party web sites 116.

Thus, in such distributed architectures, after the user has entered registration information into the registrar registration module 156, this module will substantially automatically contact the registrar web site 100 (via the World Wide Web 104) and thereby communicate the user's registration information to the registrar web site 100 so that, for example, the user's registration information may be reliably stored in case there are failures at the user's WWW client node 108. Thus, to access a third party web site 116 that cooperates with the registrar for registering the user, once the user has made contact through the World Wide Web 104 with such a third party web site 116, the user transfers his/her registration information from the registration module 156 to the third party web site. Further note that in the registration process of the present embodiment, whenever the user registers at a third party web site 116, the registrar web site 100 is provided, by (for example) the module 156, with information related to the registration so that the user also has a off-site backup copy of all registrations at third party web sites residing at the registrar web site 100.

Note that other distributed architectures for the present invention are also contemplated wherein the registrar registration module 156 on the user's WWW client node 108 is not integrated with the user's WWW browser 120. In such an embodiment, the user may be faced with a different user interaction technique for the module 156 than that of the WWW browser 120. However, the user is provided with added flexibility in choosing a WWW browser 120 and/or using his/her existing browser 120 which may not contain as part of the browser the registrar registration module 156.

In Figs. 2A and 2B, a flowchart is presented describing the steps performed when the user explicitly navigates the World Wide Web 104 to contact the registrar web site 100 for supplying registration information. Accordingly, assuming the user contacts the

registrar web site 100, in step 204 the web site 100 receives the user's request for information. Subsequently, in step 208 the registrar web site 100 responds with a home page describing the registrar services, a selection or browsing capability for reviewing third party web sites 116 accepting registrar registrations, and a fill-out form so that the user may request to proceed, if desired, with entering registration information at the registrar web site 100. In step 212 the user determines whether to proceed with the registration process or not. Assuming the user elects to proceed, the request to proceed is transferred back to the registrar web site 100 wherein a registrar application 128 examines the response and outputs a fill-out form that is transmitted back to the user's WWW browser 120 so that the user may enter his/her registration information and submit it to the registrar web site 100. Thus, in step 216 the steps of the flowchart of Fig. 3 are performed by the user when entering information into the registration fill-out form provided by the registrar web site 100. Subsequently, in step 220 the user initiates the transfer of his/her registration information to the registrar web site 100. Note that the submittal of the registration information may be performed by a conventional electronic transfer through the World Wide Web 104 using any one of various internet protocols or, alternatively, other techniques for transferring the information to the registrar web site 100 are also contemplated. For example, the user may fax a printed copy of a completed registration form to the registrar web site 100 at which point the information may be manually input into the user registration information database 144. In step 224, upon receiving the user's registration information, one or more registrar applications 128 review the user's registration information for determining whether there is enough information supplied to at least uniquely identify the user. If not, then in steps 228 and 232 a registrar application(s) 128 requests additional information from the user and flags

the user's information currently stored in the user registration information database 144 indicating that a user response is required to further process the user's information. As an aside, note that other feedback loops to the user are contemplated that are related to the loop of steps 224 through 232. For example, it may be the case that the user has
5 supplied sufficient information to be uniquely identifiable at the registrar web site 100, but the user has supplied insufficient information for the registrar web site 100 to supply adequate information to most third party web sites 116 that utilize registrar registration capabilities. Thus, a similar feedback loop to loop 224 through 232 may be provided for requesting that the user supply additional information so that a substantial number of
10 third party web sites 116 cooperative with registrar will allow the user to register at them using only the information supplied by the registrar web site 100.

Referring again to step 224, if a determination is made that sufficient registration information has been received at the registrar web site 100, the user's registration information is stored in the user registration information database 144 (step 236) and
15 subsequently a registrar application 128 outputs a request to the user to select a user ID and password that can be at least used to access the user's registration information at the registrar web site 100 (step 240). Assuming, as in step 244, that the user submits a user ID and a password to the registrar web site 100, then in step 248 a determination is made by the present invention (more particularly, a registrar application 128) as to whether the
20 user supplied ID and password is acceptable for uniquely identifying the user. If not, then steps 240 through 248 are repeated until an appropriate user ID and password are entered by the user. Thus, assuming that an acceptable user ID and password are provided, in step 252 the registration information supplied by the user is marked as unverified since there has been no independent confirmation that the user supplied information is accurate.

Subsequently, in step 256 a registrar application 128 commences to enrich the user's supplied registration information with publicly available information related to the user and, to the degree possible (i.e., conforming with internet etiquette, privacy concerns of users, and public policy), to verify the user's registration information. Note that by
5 comparing the user supplied information with information about the user from other sources, a determination can be made as to the accuracy of the user supplied information. Thus, whenever an item of the user supplied information is independently verified, then that item is unmarked. Alternatively, if discrepancies arise between the user-supplied information and other publicly available information about the user, then the user may
10 be alerted to these discrepancies and requested to confirm his/her initial responses.

Referring now briefly to Fig. 3, this flowchart presents the steps a user performs when entering web site registration information into the fill-out forms to be submitted to registrar. Accordingly, in step 304 the user determines whether to supply basic information (i.e., requested by a substantial number of third party web sites 116) as
15 described in step 308 or to supply expanded information (i.e., more extensive information about the user so that, for example, registrar has sufficient user information to register the user at substantially all cooperating third party web sites 116). Note that at least in one embodiment, the basic information supplied in step 308 (i.e., the user's name, e-mail address, gender and date of birth) is also requested in the forms for expanded information
20 in step 312. Thus, upon filling in at least one field from the fill-out forms (step 316) presented in either step 308 or 312 the present invention field checks the user's unput for syntactically appropriate responses. Subsequently, in step 320, the user inputs a request to terminate entering information in the presently presented fill-out form(s) and in step 324 the user determines whether to enter additional information in either the basic

registration information fill-out forms or the expanded information fill-out forms. If the user indicates that he/she desires to enter further registration information, then step 304 is again performed. Alternatively, the flowchart returns to the invoking program (flowchart) with the user supplied registration information.

5 Figs. 4A and 4B present a flowchart for the steps performed when the user accesses a present third party web site 116 cooperating with registrar, and in the process of registering at the third party web site the user is automatically put in contact with the registrar web site 100 so that registration information may be provided to registrar for registering the user at the present third party web site as well as other third party web sites
10 that the user may request. Accordingly, assuming the user uses a WWW browser 120 to access a third party web site 116 as in step 404, the third party web site responds with a web site home page (step 408) typically having a registration fill-out form into which the user is requested to enter registration information. Note that the user may or may not be registered at this third party web site. Thus, if the user is registered, then he/she may only
15 need to enter a user ID and optionally a password in order to gain access to a desired application at the third party web site. Further note that for different third party web sites 116, the user's identification (and optionally a password) may be different due to constraints on user ID (and password) syntax being different at different third party web sites. Further, such user IDs at different web sites may be different because a user ID
20 requested by the user may already have been assigned to another user.

Subsequently, once the third party web site 116 has received a response from the user, a determination is made as to whether the user is registered at the web site (step 412). If the user is registered, then no further processing related to the present invention is required. Alternatively, if the user is not registered at the third party web site, then a

response is transferred from the third party web site 116 through the World Wide Web 104 to the user's WWW browser 120 providing the user with the fill-out forms in which the user is requested to enter information for registering at the third party web site. Note that if the third party web site 116 is configured to accept user registration information from the present invention, then at least one fill-out form related to registering at the third party web site 116 will request information related to registering the user by using the present invention. In particular, the third party web site 116 may present the user with a fill-out form requesting the user to enter a user ID and optionally a password for the present invention (i.e., registrar) if the user is registered at the registrar web site 100.

10 Additionally, the presented fill-out forms may request the user to indicate whether he/she prefers to register at the third party web site 116 by using registrar. Thus, assuming the user desires to register at the third party web site 116, a determination is made as to whether the user wishes to register using the present invention or register at the third party web site without using the present invention (step 416). If the user chooses to not

15 use the present invention for registering at the third party web site 116, then the user explicitly supplies registration information for the present third party web site (step 420). Alternatively, if the user chooses to use registrar to register, then once the present third party web site 116 receives a response from the user indicating the choice to use registrar to register, in step 424, the present third party web site sends a request to the registrar

20 web site 100 for registering the user at the registrar web site 100. Subsequently, in step 428 the steps of Figs. 2A and 2B are performed for registering the user at the registrar web site 100. Subsequently, after registering at the registrar web site 100, in step 432, the user is automatically placed in contact with the present third party web site so that he/she submits a registration fill-out form to this third party web site 116: (a) indicating

that the user's registration information may be obtained from the registrar web site 100; and (b) providing a user ID (and optionally a password) for the registrar web site 100 to be used as identification at the present third party web site. Following this, in step 436 the third party web site 116 invokes the program corresponding to Fig. 5 to obtain the user's registration data from the registrar web site 100. Lastly, upon verification by the third party web site 116 of the user's registration data, the user is granted access to the desired third party web site and/or application (step 440).

In Fig. 5, a flowchart is presented of the registration data transmission process from the registrar web site 100 to a third party web site 116. Accordingly, in step 504 the third party web site 116 provides the registrar web site 100 with identification of the third party web site, the user's registrar user ID and (any) registrar password. Further, in some instances, as will be described below, the third party web site 116 also supplies the registrar web site 100 with a return path to the user through the World Wide Web 104. Following this, in step 508, a determination is made by the registrar web site 100 as to whether the third party web site supplied information can be authenticated. If not all third party web site information is authenticated, then step 512 is encountered wherein a determination is made as to whether to request that the third party web site to resend the information of step 504. Note that such a determination may be made in one embodiment depending upon whether the third party web site identification is authenticated. That is, if the third party web site identification is authenticated, then a retry may be allowed. Otherwise, no retry may be allowed. Alternatively, referring again to step 508, if all information transmitted from the third party web site 116 is authenticated at the registrar web site 100, then step 516 is encountered. In this step, the program represented by Figs.

6 is performed for supplying the third party web site 116 with registration information related to the user from the user registration information database 144.

Referring now to Figs. 6A and 6B, the flowchart presented here provides the steps for supplying a present third party web site 116 with registration information from the registrar web site 100, assuming that the present third party web site 116 has requested such information and that the request has been authenticated at the registrar web site 100. Accordingly, in step 604 the registrar web site 100 or, more precisely, a registrar application 128 performs the steps of Fig. 7 for retrieving the user registration information requested by the present third party web site 116 from the user registration information database 144. Note that a third party web site 116 may request various categories of information from the registrar web site 100 related to the user. In particular, a third party web site may request: (a) basic information as discussed in step 308 of Fig. 3; (b) expanded information as discussed in step 312 of Fig. 3; (c) custom information, wherein selected fields from the basic and expanded information are provided; and (d) proprietary information wherein one or more additional user related information items may be provided wherein these items have been obtained by the registrar web site 100 by, for example, enriching and verifying the registration information obtained from the user as in step 256 of Fig. 2B.

Following step 604, step 608 is encountered wherein a registration application 128 determines whether the present third party web site 116 requesting user information (for a user attempting to register at this third party web site) requires that a user ID (and optionally password) be generated specifically for this third party web site. That is, the third party web site 116 may require a user ID and/or password that conforms with a format peculiar to the third party web site 116. Note that to perform the step 608, in at

least one embodiment of the present invention, information related to the requirements of the present third party web site 116 are stored at the registrar web site 100. In particular, the registrar web site 100 may store a user information request template for each third coordinating party web site 116 having access to user information at the registrar web site 100 such that a registrar application 128 (upon identifying a particular third party web site 116) may access a related user information request template for determining what information may be required by this third party web site.

If a user ID and optionally password need not be generated specifically for the requesting third party web site 116, then in step 612 the user information requested by the third party web site 116 is encrypted and in step 616 the encrypted information is sent to the third party web site. Following this, in step 620 a registrar application 128 logs an entry or a record in the registrar access log database 152 indicating that registration information for the user has been transmitted to the present third party web site 116. Subsequently, in step 624 a registrar application 128 (or, more precisely, an instantiation thereof) waits for an acceptance response from the present third party web site 116 to which the encrypted user information was sent. Note that the response from the present third party web site may include a third party web site specific user ID (and optionally password) if the user was not previously registered at this third party web site. That is, the third party web site may automatically generate at least a user ID if the user was not previously registered at the web site. Alternatively, it may be the case that the present third party web site uses the user's registrar registration user ID and password for registering the user at the third party web site 116. Note that in at least one embodiment for registration processing at a third party web site 116, the use of the registrar user ID does not create ambiguity in the identity of users registering at the third party web site.

For example, a user seeking access to a cooperating third party web site may be required to indicate that his/her user ID and/or password is a registrar generated user ID (and/or password) so that the third party web site can process the entered user identification differently from that of users who have registered without using the present invention.

5 Subsequently, when an acceptance response from the requesting third party web site 116 is provided to the registrar web site 100 (or, more precisely, a registrar application 128), this response is logged in the registrar access log database 152 in step 628. Following this latter step, in step 632, a determination is made as to whether the response from the present third party web site 116 indicates that the user is now registered at this third party
10 web site. If no such indication is provided, then in step 636 a message is sent to the user at the user's WWW client node 108 that registrar cannot register the user at the present third party web site to which the user has requested registration and access. Further, the registrar application 128 performing step 636 may also supply the user with a reason as to why the user cannot register through registrar at the present party web site if such a
15 reason was indicated by this third party web site when the response of step 624 was received.

Alternatively, if in step 632 it is determined that the user is registered at the present third party web site, then in step 640 the program corresponding to the flowchart of Fig. 8 is performed for storing at least the user's ID (and optionally password) for the
20 present third party web site at the registrar web site 100 (more precisely, in the user registration information database 144) as will be discussed hereinbelow.

Referring again to step 608 of Fig. 6A, if a registrar application 128 is required to generate a user ID (and optionally password) for the third party web site 116, then step 644 is next performed wherein a registrar application 128 generates a user ID (and

optionally password) to be transmitted to the third party web site 116. Subsequently, the sequence of steps 648 through 668 are performed. Note that this sequence of steps is substantially the same sequence of steps as steps 612 through 632. However, the response from the present third party web site logged in step 664 may include an indication as to whether the user generated by the registrar application 128 is acceptable to the present third party web site 116.

Accordingly, continuing the discussion of Figs. 6A and 6B from step 668, if the response from the present third party web site 116 indicates that the user is registered at the desired third party web site, then step 672 is performed wherein the program corresponding to the flowchart of Fig. 8 is again used to store the user's ID (and optionally password) for the present third party web site in the user registration information database 144 (as in step 640). Alternatively, if in step 668 it is determined that the user is not registered at the present third party web site 116, then in step 676 a determination is made as to whether the generated user registration information (i.e., user ID and optionally password) step 644 has been rejected by the present third party web site. If so, then in step 680 a determination is made as to whether this rejection has occurred less than a predetermined number of times (i.e., the sequence of steps 644 through 668 have been iteratively performed less than a predetermined number of times in attempting to register the user at the present third party web site). If the results of the test in step 680 is affirmative, then step 644 is again encountered for generating alternative user registration information for the present third party web site. Note that it is an aspect of the present invention that, at least in one embodiment, such generations produce user IDs that are meaningful to the user and/or are related to other web site registration user IDs for the user. Thus, in one embodiment of the present invention, the

step 644 uses the user's registrar user ID as a "seed" from which to generate a user ID acceptable to the present third party web site 116. Moreover, note that the generation process of step 644 may use various heuristics and third party web site constraints to generate acceptable user IDs.

5 Alternately, if the negative branch from step 676 is followed, then the third party web site 116 may have rejected registering the user for any of a number of reasons that may not be able to be alleviated in a timely fashion so that the user can be registered at this third party web site in a short amount of time. Accordingly, step 684 is encountered wherein a message is transmitted to the user's WWW client node 108 indicating that
10 registrar cannot currently register the user at the requested third party web site 116. Further, note that if in step 680 it is determined that too many attempts have been made to generate acceptable registration information for the third party web site, then step 684 is also encountered.

 The flowchart of Figs. 6A and 6B is representative of the processing variations
15 within the scope of the present invention for supplying a third party web site with registration information. For instance, those skilled in the art will appreciate that steps 624 and 660 may have a timer associated with them whereby if there is no response from the third party web site within a predetermined time period, then a default response is provided by a registrar application 128 so that one of the steps 684 or 636 is performed
20 as part of the processing when such a timer expires and subsequent steps in the flowchart are performed. Additionally, other steps may be inserted, for example, on the negative branch from step 676 wherein these additional steps attempt to address other anomalies indicated in the acceptance response received in step 660. For example, if the third party web site 116 requests additional user information than what was provided in step 648,

then if this additional information is in the user registration information database 144 and the user has indicated that it is permissible to disseminate this information, then the additional information may be transmitted to the present third party web site 116. Also, in such a case, the transmittal of this additional information is recorded in the registrar access log database 152.

Referring now to Fig. 7, wherein the flowchart for a program is provided for supplying, from the user registration information database 144, a requesting third party web site 116 with registration information related to a particular user. Accordingly, in step 704 of Fig. 7, if the registrar web site 100 has not been previously supplied with an indication as to what type of information is required by the requesting third party web site, then a registrar application 128 constructs such a request to be transmitted to the requesting third party web site and subsequently the application may wait for a response from this third party web site. Following step 704, in step 708 it is assumed that the registrar web site 100 has been provided with an indication or specification as to what information the requesting third party web site desires. Thus, the registrar application 128 performing step 704 may now determine what registration information is to be transmitted to this third party web site. Note that at least in one embodiment of step 708, the user registration information requested may require validation according to the following criteria:

- (1.1) The type and amount of registration information for a user that the user has indicated is available to be transmitted to a requesting third party web site.
- (1.2) The type and amount of information the requesting third party web site 116 has contracted with the registrar web site 100 for transmitting regarding a particular user or category of users.

(1.3) The registration information available in the user registration information database 144.

Thus, as discussed with respect to step 604 of Fig. 6A, either basic, expanded, custom or proprietary registration information related to a user is transmitted to the requesting third party web site in step 736.

Fig. 8 presents a flowchart for storing, in the user registration information database 144, a user's ID and/or password for a third party web site 116 to which the user is registered using registrar. More precisely, the user ID and/or password for such a third party web site is stored via the steps of Fig. 8 if this information is different from the user's registrar user ID and/or password. That is, it is believed that for many third party web sites 116, the registrar user ID and password for users registered at the registrar web site 100 will be identical to the user's user ID and password at third party web sites. Note that there are significant advantages to third party web sites 116 using, for each registered user, the user's registrar user ID and password (or, some other user ID and password in common with other third party web sites to which the user is registered). For instance, a user is required to remember fewer user IDs and passwords associated with web sites and the web sites providing this convenience may have a higher volume of users accessing the web site due to the greater ease of access.

Regarding the steps of Fig. 8, in step 800 a determination is made as to whether the user has been provided with a user ID (optionally password) for the third party web site 116 (to which the user is attempting to register) that is different from the user's registrar user ID and/or password. If not, then there is nothing additional to store at the registrar web site 100 and the flowchart ends. Alternatively, if the decision of step 800 results in a positive answer, then step 804 is performed wherein the user's specific user

ID and optionally password for this third party web site is stored with other user registration information in the user registration information database 144. Note the following advantages accrue by storing user registration information at the registrar web site: (a) each user has the convenience of off-site storage backup for each such third party web site to which the user is registered and (b) depending on the registration process at the third party web site, it may be expedient for such a web site (at least temporarily) to automatically contact the registrar web site 100 for retrieving, for example, the user's third party web site specific user ID upon subsequent user accesses to the third party web site.

10 Following step 804, in step 808 a determination is made as to whether the third party web site has indicated that it will initiate requests as in (b) immediately above. If so, then no further processing needs to be accomplished here in that the user may enter his/her user registrar web site 100 user ID (and optionally password) when accessing the third party web site. Alternatively, if step 808 yields a negative answer then step 812 is performed wherein the registrar web site 100 sends a message to the user at the user's WWW client node 108 providing the user with the ID (and optionally password) for the third party web site.

20 In an alternative embodiment of the present invention, a registrar registration module 156 may be provided at the user's WWW client node 108. This module (whether incorporated into the WWW browser 120 or external to the browser and communicating with the browser through, for example, a browser 120 port) may store locally at the client node 108 registration information for accessing third party web sites 116 to which the user has registered using the present invention. In Figs. 9-13, flowcharts are provided for

programs illustrating the processing of this alternative embodiment of the present invention.

In Fig. 9, a flowchart is presented of the program for registering at a third party web site 116 when the module 156 is installed on the user's client node 108.

5 Describing now the steps of Fig. 9, in step 904 the user sends a request to access a third party web site 116 via the user's WWW browser 120. Subsequently, upon receiving the request, the accessed third party web site 116 responds with a home page having a registration fill-out form (step 908). Assuming that the registration fill-out form allows the user to indicate that user registration information may be obtained locally at
10 the client node 108, in step 912 the user indicates on the fill-out form that he/she desires to register at the third party web site and that his/her registration information can be retrieved using the registrar registration module 156 residing on the user's client node 108. Further note that the user may be required to activate or alert the module 156 so that this module can supply the appropriate user registration information to be communicated
15 to the third party web site 116. Also note that the home page from the third party web site 116 may indicate the type of information required to register the user and this information may be used either manually or automatically for determining the user registration information stored on the user's client node 108 that will be transmitted to the third party web site. Subsequently, in step 916 the user specifies that the registration fill-
20 out form is to be submitted to the third party web site. Accordingly, the WWW browser 120 communicates with the registrar registration module 156 to supply the registration information to the third party web site. That is, the processing performed here includes the steps of Fig. 10 which are described herein below. Subsequently, in step 920 a message is sent from the registration module 156 to the registrar web site 100 indicating

that the user has registered at the third party web site and additionally supplying the registrar web site 100 with any user ID and password specific to the third party web site. Note that by sending this information as well as, for example, a copy of substantially all of the user's registration information stored locally to the registrar web site 100, the user
5 is provided with an automatic off-site backup of his/her registration information. Additionally, the user may be provided with other advantages by providing his/her user registration information to the registrar web site 100. In particular, the registrar web site 100 may enrich the user's registration information with publicly available information on the user and alert the user to discrepancies between the user information and various
10 publicly available records on the user.

Referring now to the flowchart of Fig. 10, this flowchart describes the steps performed when supplying a third party web site 116 with registration information retained by the registrar registration module 156 on the user's node. In step 1004, the steps of the flowchart of Fig. 7 are performed for retrieving the registration information
15 requested by the third party web site. Subsequently, in step 1008 the registrar registration module 156 packages the accessed registration information for the third party web site together with the user's registrar ID (and optionally password) for transmittal to the third party web site. Subsequently, in step 1016 the registration information packaged together in step 1008 is encrypted so that in step 1020 this encrypted information may be sent
20 securely to the third party web site via the World Wide Web 104. Following this, in step 1024 the module 156 logs an entry into a local log on the client node 108 indicating what registration information was sent to the third party web site. Subsequently, in step 1028 a process may be instantiated to wait for an acceptance response from the third party web

site so that when such a response is obtained it may be logged locally at the client node 108 in step 1032.

In one embodiment of the present invention the user may configure the registrar registration module 156 to log all activities with third party web sites 116 and provide the records of this log to the registrar web site 100. This allows the registrar web site 100 or personnel that maintain the registrar web site 100 to analyze user activities on the World Wide Web 104. Such analysis may be useful to both registrar users and third party web site personnel in that, given a user's World Wide Web 104 activity, the registrar web site 100 may suggest additional third party web sites 116 of which the user may not be aware. Further, by analyzing the user access logs of registrar users, the registrar web site 100 may provide statistics to the third party web sites 116 as to the number and types of users accessing their respective web sites.

Figs. 11A and 11B present a flowchart for the steps performed by the present invention when the user changes his/her registrar registration information. That is, the flowchart of Figs. 11 encompasses both the architecture or embodiment of the present invention wherein the user's registration information is stored substantially only at the registrar web site 100, and also the architecture or embodiment wherein the user's registrar information is also stored at the user's client node 108. Accordingly, in step 1104 a determination is made as to where the user's registration information is stored. Note that this step 1104 is unlikely to be explicitly performed by either the present invention or the user. Instead, the embodiment of the present invention determines which of the paths from this step to follow (i.e., if module 156 exists, then the "USER NODE" branch is followed; otherwise, the "REGISTRAR WEB SITE ONLY" branch is followed). Accordingly, assuming that the present invention is embodied such that the

user's registration information is stored at the web site 100 only, then step 1108 is encountered wherein the user accesses the registrar web site 100 from his/her WWW client node 108 by entering his/her user ID and optionally password. Subsequently, in step 1112 the registrar web site 100 responds with a web page having a number of options related to the user's registration information and registrar web site 100 processing of this information. Note that such options include a request by the user to modify the user's registration information stored at the registrar web site. Additionally, other options may be also provided to the user including: (a) an option for requesting to be no longer affiliated with the registrar web site 100 and have all the user's registration information deleted; (b) an option for requesting to examine all information regarding the user stored at the registrar web site 100, including all information the registrar web site has obtained from publicly available sources; (c) a request for procedures and/or addresses to contact publicly available databases that registrar has accessed obtaining incorrect user information; and (d) third party web sites 116 that are providing information for a limited period of time and for which the user may be interested. Following step 1112, in step 1116 the user enters new information into an appropriate fill-out form received at the user's WWW client node 108 from the registrar web site 100. Note that this form is likely to be in a page different from the page of options described in step 1112. That is, upon submission of the page of options, the registrar web site 100 responds with a new page(s) having fill-out forms with the presently stored user registration information presented in the forms so that the user may change any of the fields on this page(s).

Note that in at least one embodiment of the present invention, the user is allowed to change his/her registrar user ID and/or password. However, it may be the case that when a user changes his/her registrar user ID, that the new requested user ID has already

been assigned to another registrar user. Thus, the registrar web site 100 may respond with a request for further information (such as a request for a different user ID from the user) wherein when the user submits the additional information, the registrar web site 100 again checks to determine if the user is uniquely identifiable. Note that the loop of steps 1120 and 1124 are provided to represent the iterative process described here of changing the user's user ID. Further note that in some embodiments of the present invention, the registrar web site 100 may respond with alternative variations for a new user ID so that the user is not left to guess at a registrar user ID that is acceptable for uniquely identifying the user.

10 Returning now to step 1104, if the user's registration information is stored locally at the user's client node 108, then step 1128 is performed instead of the steps 1108-1124. However, for simplicity, a discussion of the processing performed in step 1128 is not described in detail here. Instead, a detailed discussion of this step is provided by Figs. 12 and the discussion of Figs. 12 hereinbelow for changing the registration information at the user's client node 108 and for transmitting the changes to the registrar web site 100.

15 Regardless of the branch of processing taken from step 1104, eventually step 1132 and the subsequent steps of Fig. 11B are encountered wherein the present invention updates or alerts third party web sites having previously received user registration information that this information may be outdated. Thus, the steps 1132-1140 are performed so that the registration information provided to such third party web sites via the present invention is consistent with the newly supplied user registration information. However, in at least one embodiment of the present invention, prior to providing any newly entered user registration information to the third party web sites, such information may be compared or correlated with publicly available information regarding the user that

is, for example, accessible via certain third party web sites 116. Further, the user may request his/her newly entered registration information by supplied to only selected web sites to which the user is registered, or alternatively, the user may request that the newly entered registration information be supplied to all web sites to which the user is registered.

Fig. 12 presents a flowchart of the steps performed when the registrar registration module 156 is provided at the client node 108 and the user enters registration information into this module. Note that the steps of this flowchart may be performed when the user is entering registration information for registering the user with registrar, or when modifying registration information already supplied to registrar. Accordingly, in step 1204 the user requests activation of the registrar registration module 156 on the user's client node 108 for entering information that will subsequently be used for registering substantially automatically cooperating at third party web sites 116 requested by the user. Subsequently, in step 1208 the registrar registration module 156 on the user's client node 108 presents the user with one or more fill-out forms for the user to provide new registration information. Following this, in step 1212 a determination is made as to whether the user requests to obtain a registrar user ID. If so, then in step 1216 the program corresponding to the flowchart of Fig. 13 is performed to provide the user with a valid registrar user ID and optionally password. Subsequently, in step 1220 a determination is made as to whether the program of Fig. 13 returns a valid registrar user ID. If so, then step 1224 is performed wherein the new user's registrar ID is stored on the user's node 108 for a subsequent transmittal to a third party web site during a registration process at a third party web site that accepts the registrar user ID as the web site's ID. Subsequently, regardless of the path taken from step 1220, step 1228 is encountered

wherein a determination is made as to whether the user desires to enter further user registration information.

If the user desires to enter further information, then step 1212 is again encountered and a determination is made once again as to whether the user requests to obtain a registrar user ID. However, it is important to note that the steps provided in this flowchart are only an indication of the processing provided by the registrar registration module 156 and the user's browser. In particular, since the user interfaces typically used by World Wide Web browsers allow a user to select the fill-out form fields to modify, the positive branch from step 1212 is taken only when the user enters information in a fill-out form field indicating that a registrar user ID is requested. Similarly, the negative branch from step 1212 is taken whenever user information is entered into other fill-out form fields unrelated to obtaining a registrar user ID.

Accordingly, if the user desires to enter other information than that required to obtain a registrar user ID, then from step 1212, step 1232 is encountered wherein the registrar registration module 156 explicitly requests the user's registrar registration user ID (and optionally password). Subsequently, in step 1236, assuming the user enters a registrar user ID, a determination is made as to whether the registrar user ID is valid. Note that this determination is initially made locally at the user's client node 108 without contacting the registrar web site 100. However, in one embodiment of the present invention, it is an option that if the registrar user ID entered is not found in the client node 108, then the registrar registration module 156 may inquire of the user as to whether he/she desires the registrar web site 100 to be interrogated for the registrar user ID and password and, if found, download the user's registration information to the user's client node 108. If no valid registrar user ID is determined in step 1236, then the program ends

in step 1240. Alternatively, if a valid registrar user ID is obtained, then in step 1244 a determination is made as to whether the user requests to exit the present program and thereby stop supplying registration information. Note that this step is similar to step 1212 in that if the user continues to enter registration information in fill-out form fields, then
5 the negative branch from this step is followed and, alternatively, if the user, for example, activates an exit button on the user interface, then the positive branch from step 1244 will be followed. Accordingly, if the negative branch is followed, then in step 1248 the program of Fig. 3 is performed for obtaining new user registration information and, subsequently, step 1212 is encountered (or, more precisely, the user interface is provided
10 that allows the user to request a registrar user ID).

Alternatively, if the positive branch is taken from step 1244, then step 1252 is encountered wherein the registrar registration module 156 transmits (or schedules the transmission of) any newly entered user registration information that the user desires to be transmitted to the registrar web site 100 for backup storage. Thus, in one embodiment
15 of the present invention, the step 1252 provides the user with the option to discard the registration information provided in step 1248 above instead of transmitting this information to the registrar web site 100.

In Fig. 13, a flowchart is presented of the program for obtaining a registrar user ID and optionally password for the embodiment of the present invention wherein the registrar registration module 156 retains the user's registrar user ID (and optionally
20 password) for automatically providing to third party web sites at which the user requests registration using the present invention. Accordingly, in step 1308 the registrar registration module 156 requests the user to select a registrar user ID and optionally a password that can be used to access the user's registration information at both the user's

client node 108 and at the registrar web site 100. Assuming that the user enters a user ID and optionally password in step 1308, in step 1312 the registrar registration module 156 transmits the user selected ID and optionally password to the registrar web site 100. Subsequently, in step 1316 a determination is made by the registrar application 128 as to whether the user's selected user ID and optionally password are acceptable to the registrar web site. That is, a registrar application 128 accesses the user registration information database 144 to determine if the selected user ID is sufficiently unique. Note that other steps may be performed between steps 1308 and 1312. For example, the syntax for user IDs and optionally passwords may be checked at the module 156 prior to transmitting the user's selected registration information to the registrar web site 100.

Continuing with step 1316, a determination is made at the registrar web site 100 as to whether the user's selected user ID and optionally password are acceptable to registrar. If so, then in step 1320 a registration application 128 stores the user's ID and optionally password in the user registration information database 144. Note that since it is unlikely that any further information related to the present user is stored at the registrar web site, the process of storing the user's user ID and optionally password includes creating a new record in the database 144 and marking all remaining fields related to registration information for this user to indicate that these fields are as yet not valid. Following this, in step 1324 a registrar application 128 transmits a message to the user's WWW browser 120 indicating that the user's selected user ID and optionally password is acceptable to registrar.

Alternatively, if the negative path is taken from step 1316, then step 1336 is encountered wherein a registrar application 128 attempts to generate an acceptable user ID and optionally password as a substitute for the user's proposed user ID (and optionally

password). Note that in generating alternative registration information, the registrar application 128 may use the user supplied information as the basis or "seed" for generating an acceptable user ID (and optionally password) to be transmitted back to the user. Accordingly, in step 1340, once the user is presented with the newly generated registration information on the user's client node 108, the registrar registration module 5 156 provides the user with the option to accept or reject the generated information. If the user accepts the generated registration information, then the flowchart ends. Alternatively, if the user rejects this information, then in step 1348 a further determination is made by the module 156 as to whether the user enters a new user ID (and optionally password) as an alternative to the generated registration information. If such 10 new user registration information is provided, then step 1312 and steps thereafter are again performed in attempting to provide a registrar user ID (and optionally password) to the user. Alternatively, if the user indicates in step 1348 that no further proposed candidates for a user ID (and optionally password) will be forthcoming, then the 15 flowchart ends without an acceptable registrar user ID being obtained.

The foregoing discussion of the invention has been presented for purposes of illustration and description. Further, the description is not intended to limit the invention to the form disclosed herein. Subsequently, variation and modification commensurate with the above teachings, within the skill and knowledge of the relevant art, are within 20 the scope of the present invention. The embodiments described hereinabove are further intended to explain the best mode presently known of practicing the invention and to enable others skilled in the art to utilize the invention as such, or in other embodiments, and with the various modifications required by their particular application or uses of the

invention. It is intended that the appended claims be construed to include alternative embodiments to the extent permitted by the prior art.

ABSTRACT

A World Wide Web registration processing system is disclosed for assisting World Wide Web users in registering at World Wide Web web sites. For each such user, the registration processing system includes a long term repository for the user's web site registration information so that this information can be automatically transferred to a plurality of web sites to which the user may at time to time request to be registered. Further, the registration processing system provides the user with the capability to have a common user identification that may be used for accessing services at a plurality of web sites.

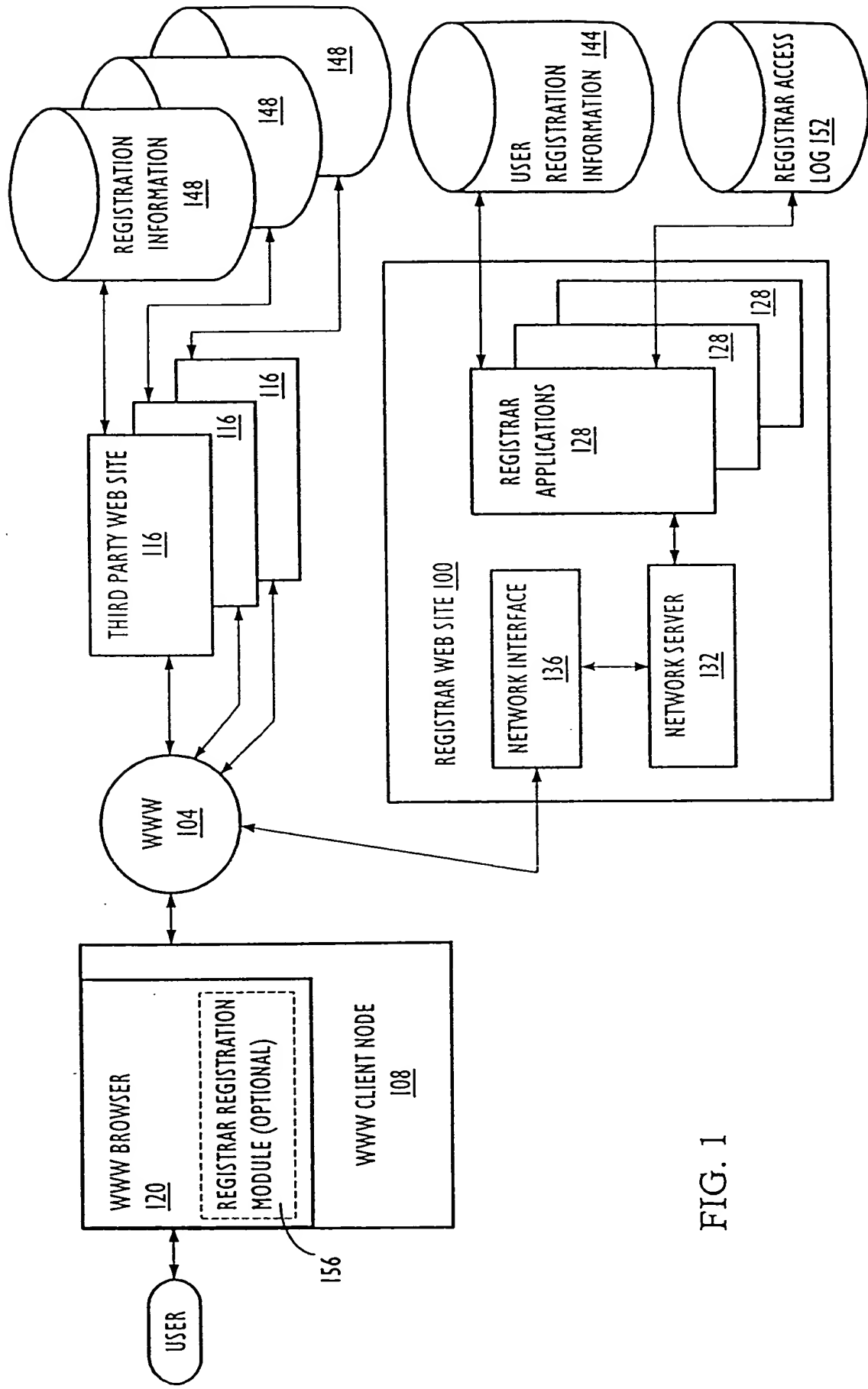
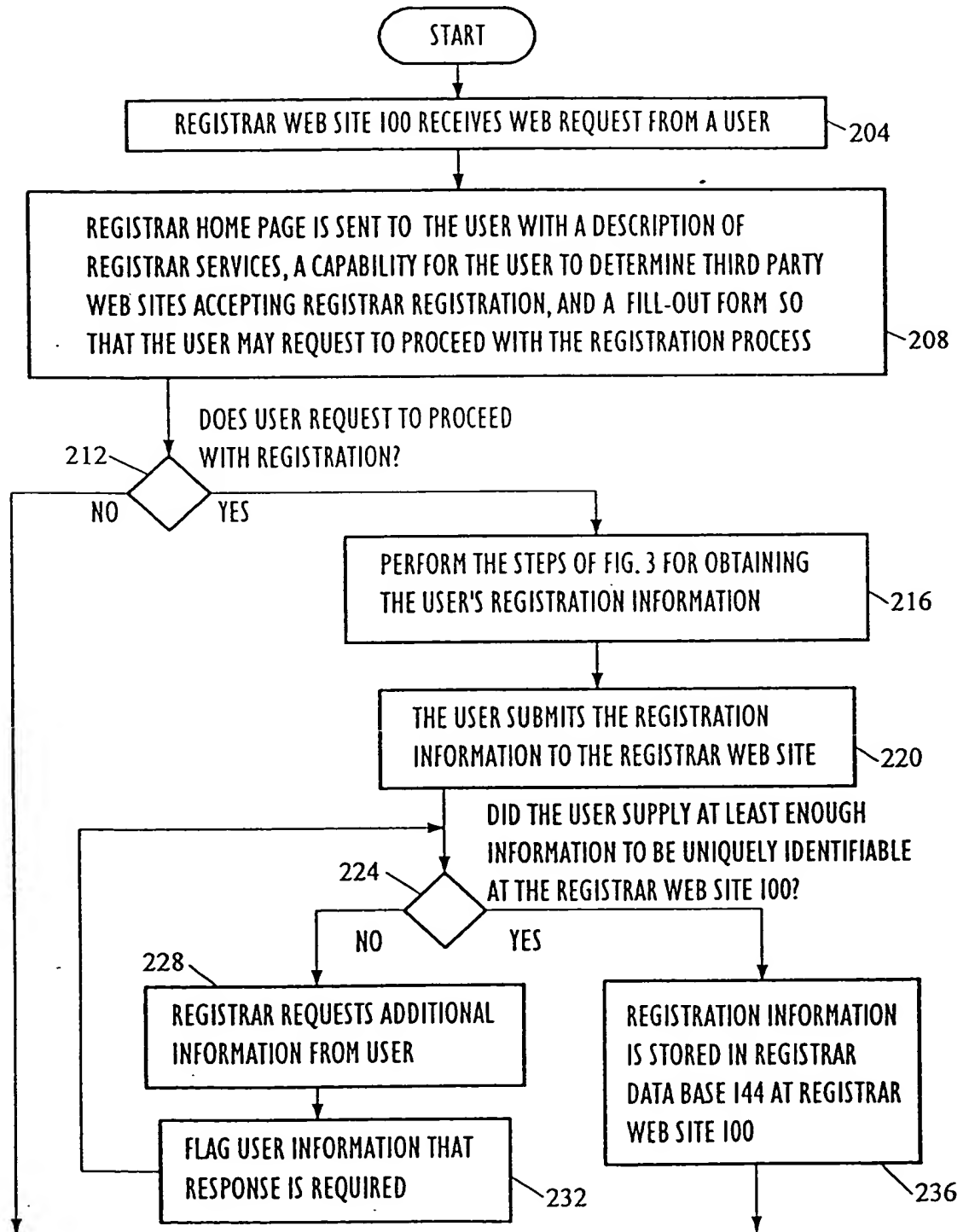


FIG. 1

FIG. 2A

REGISTRAR REGISTRATION USING REGISTRAR WEB SITE TO STORE REGISTRATION INFORMATION FOR TRANSMITTAL TO THIRD PARTY WEB SITES FROM REGISTRAR WEB SITE (MAY BE INVOKED BY THE USER OR BY FIGS. 4)



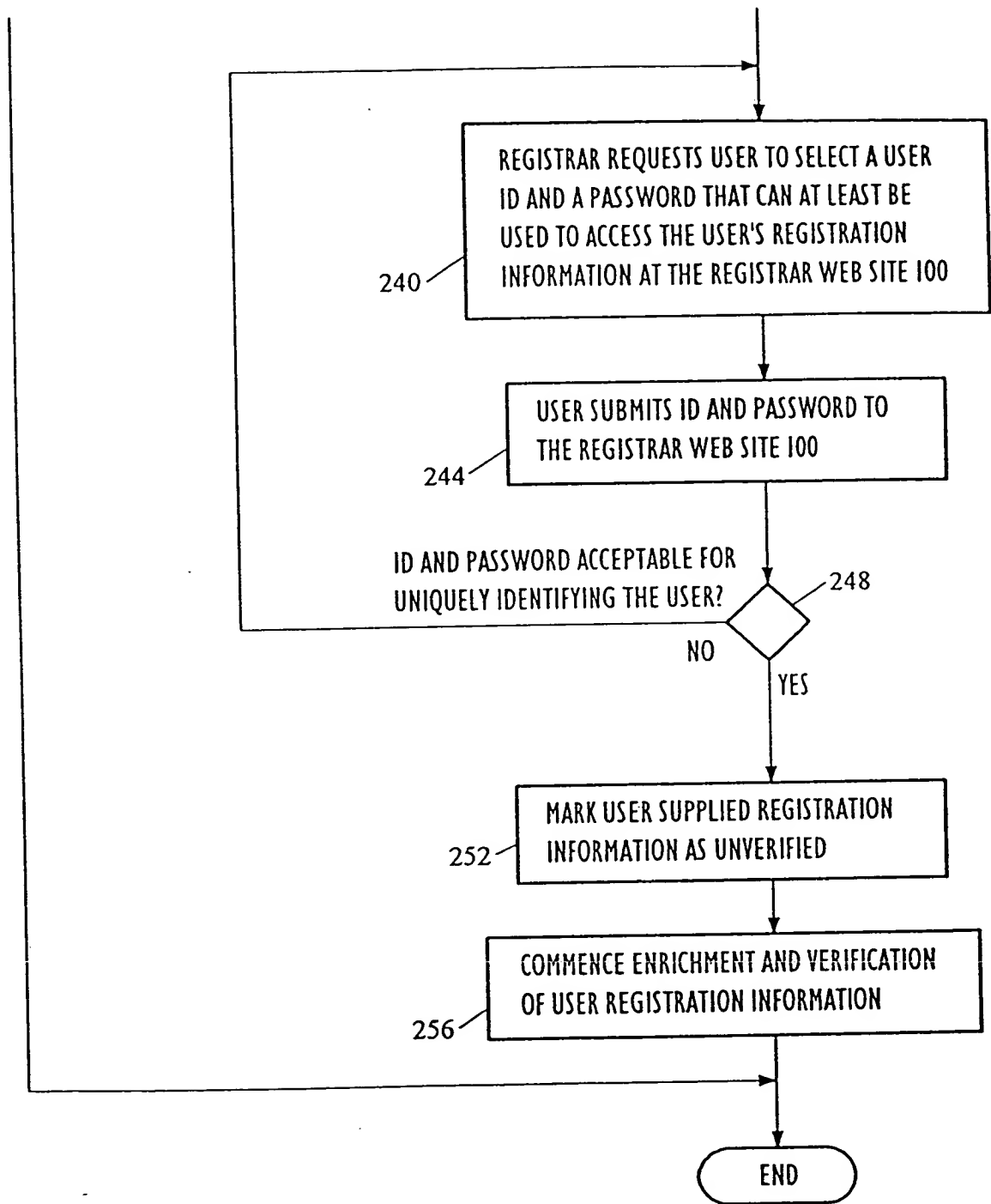


FIG. 2B

FIG. 3 USER ENTERS REGISTRAR INFORMATION
(MAY BE INVOKED BY FIGS. 2 AND 12)

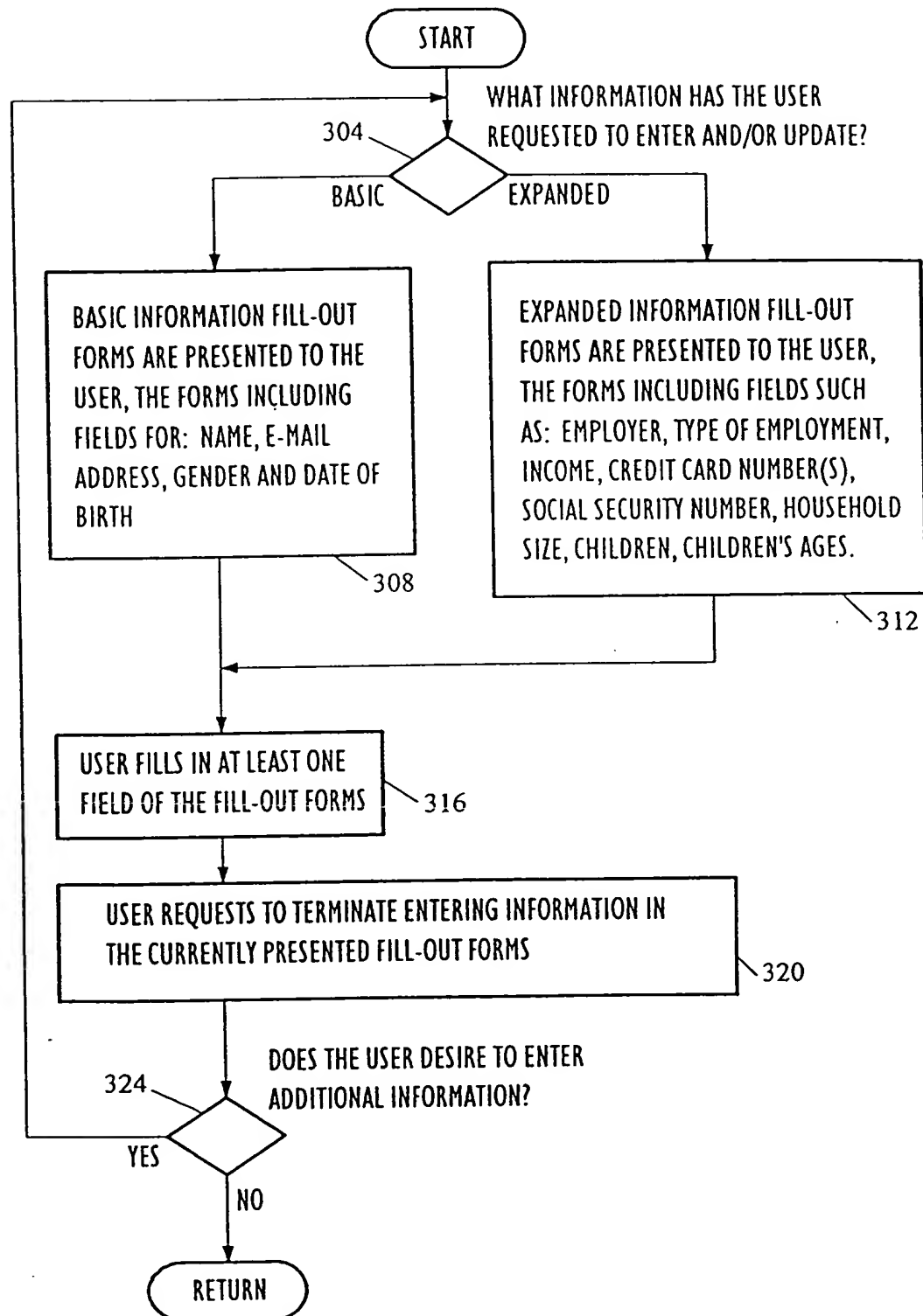
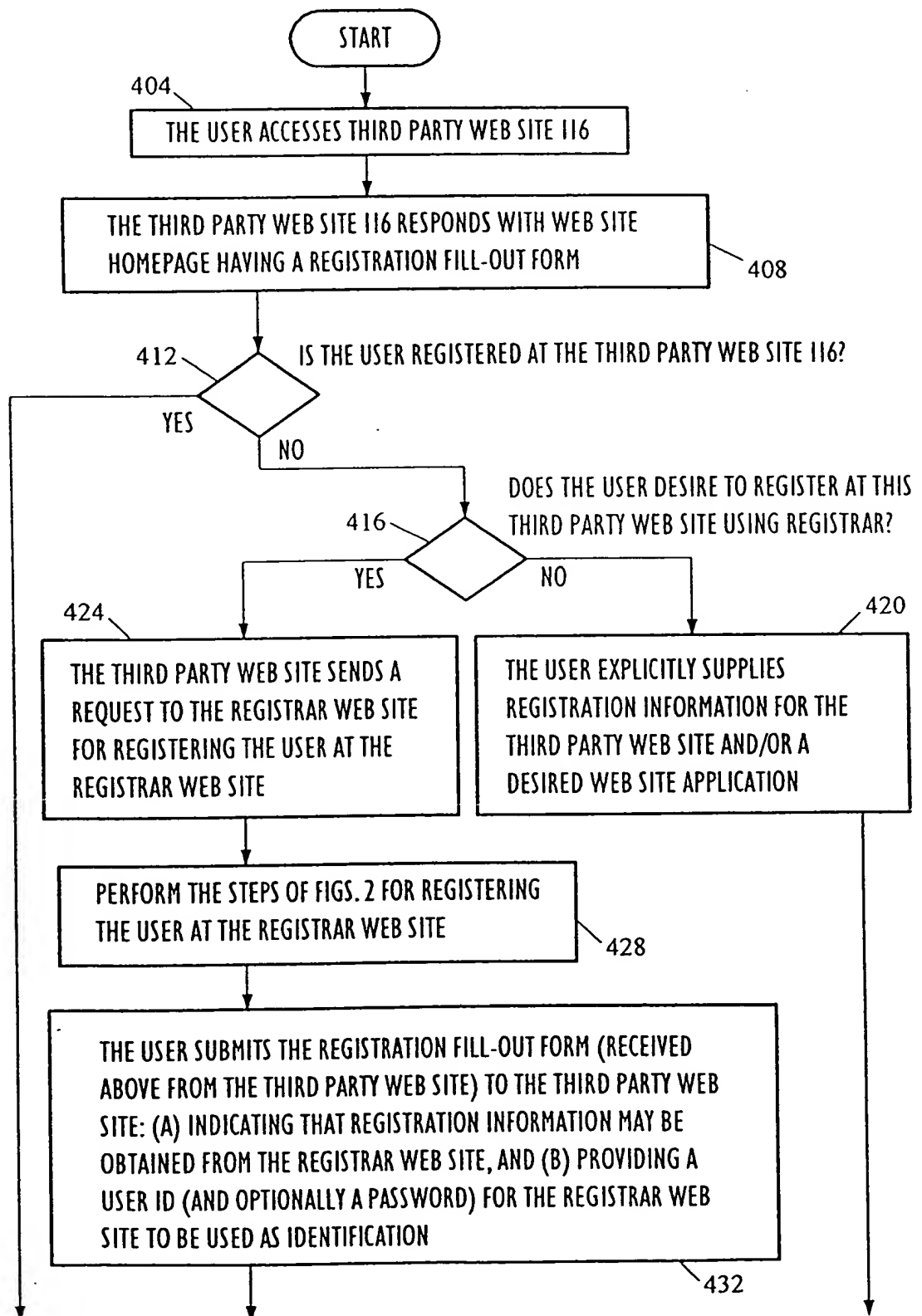


FIG. 4A THE USER REGISTERS AT THE REGISTRAR WEB SITE WHEREIN A THIRD PARTY WEB SITE IS FIRST ACCESSED



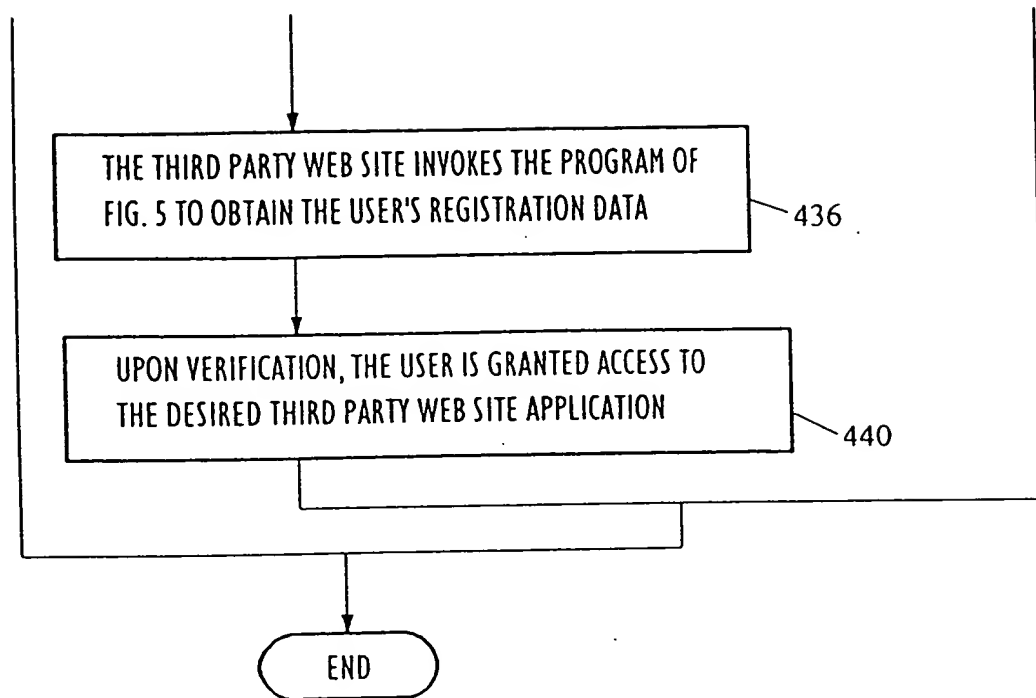


FIG. 4B

FIG. 5 REGISTRATION TRANSMISSION PROCESS BETWEEN REGISTRAR WEB SITE AND THIRD PARTY WEB SITE (MAY BE INVOKED BY FIGS. 4)

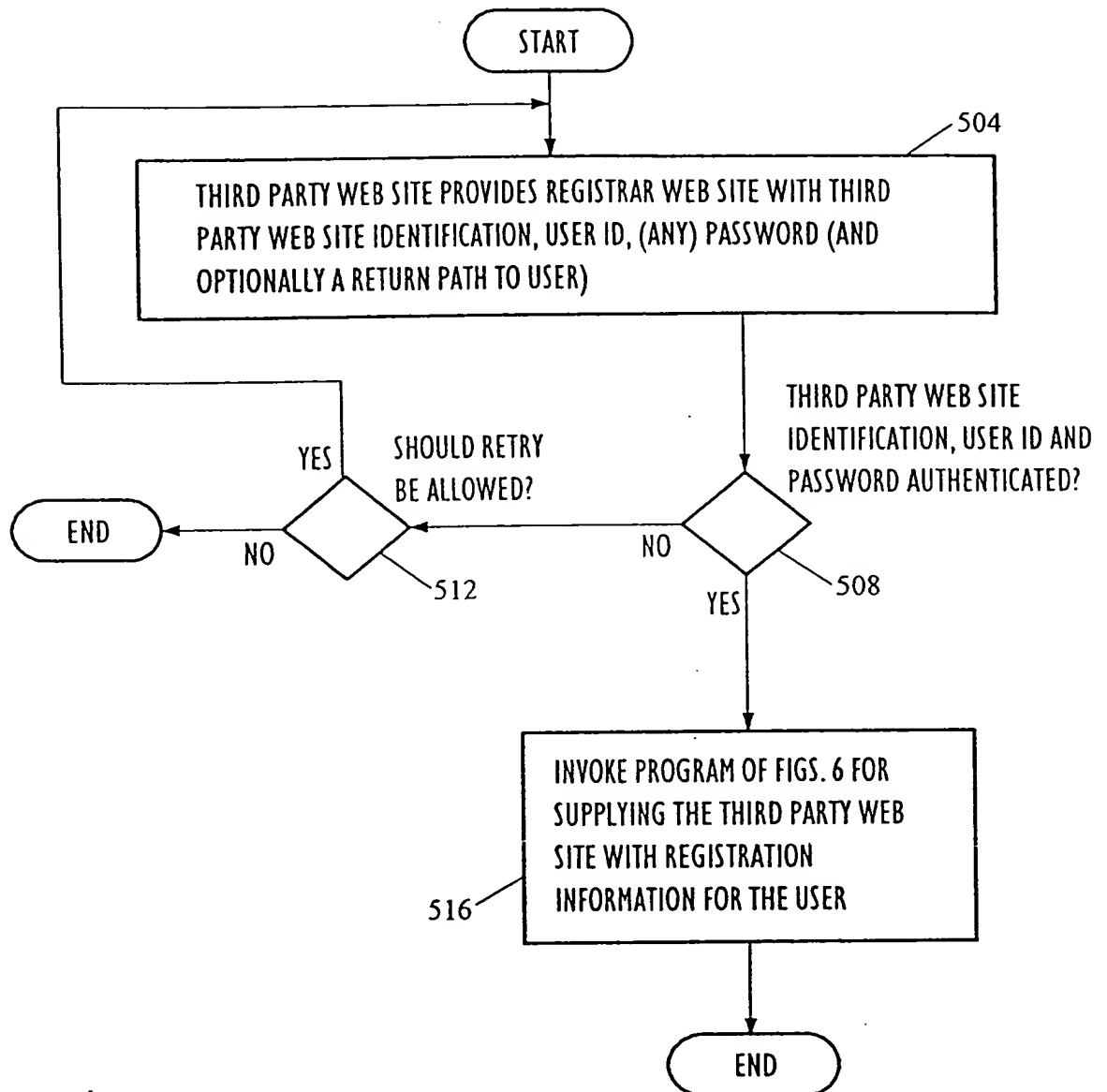
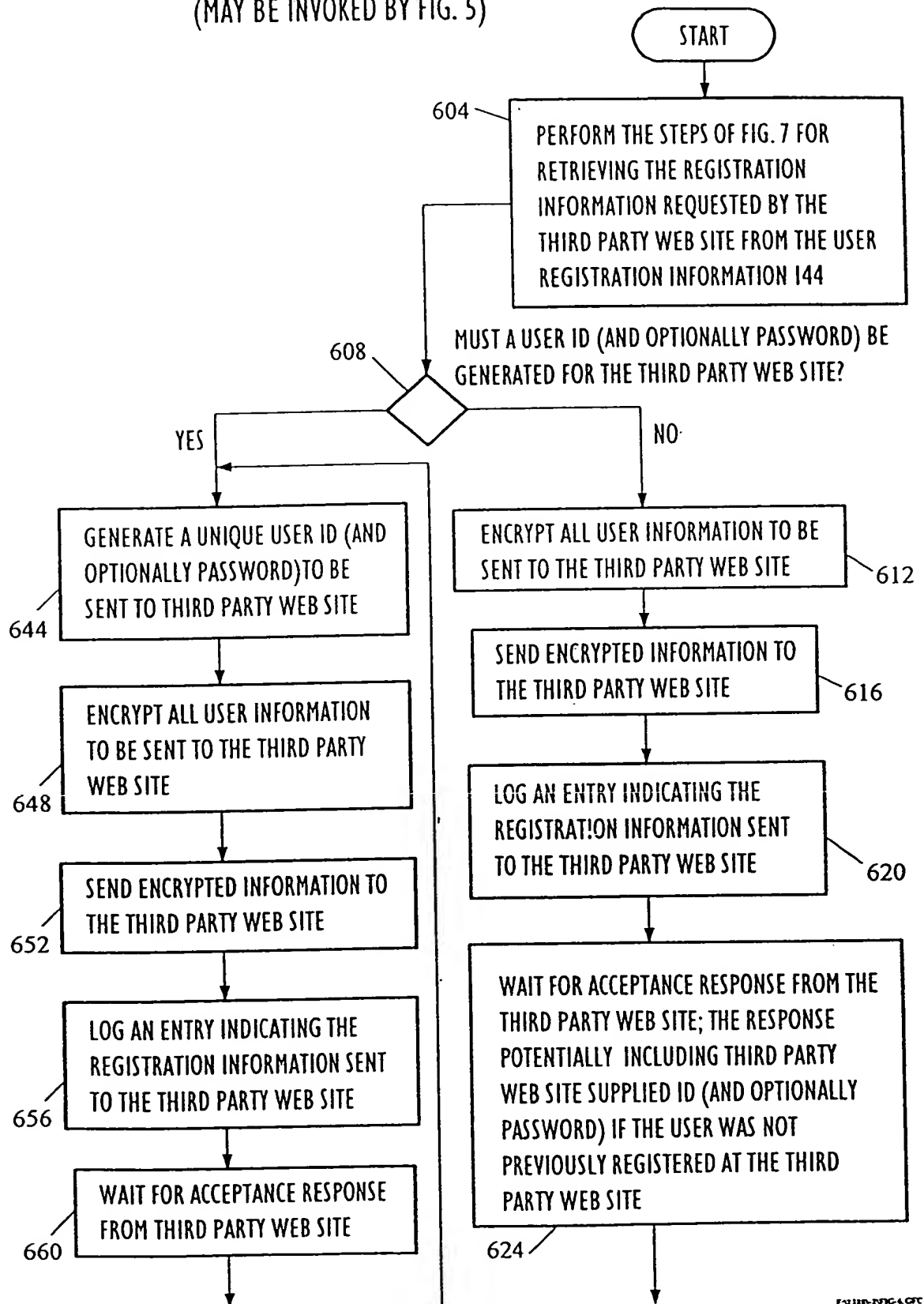


FIG. 6A PROGRAM FOR SUPPLYING A THIRD PARTY WEB SITE WITH REGISTRATION INFORMATION FROM REGISTRAR WEB SITE (MAY BE INVOKED BY FIG. 5)



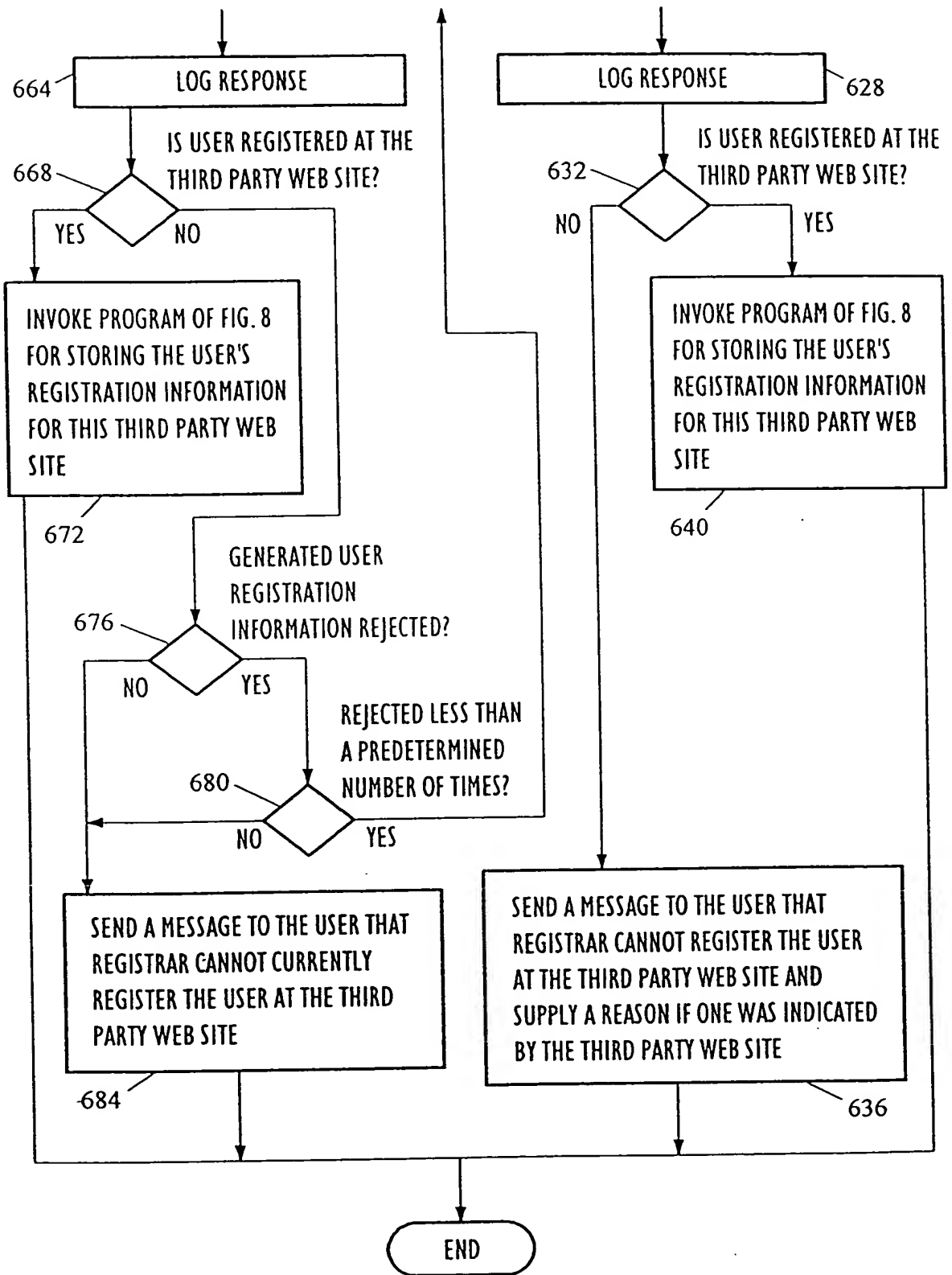


FIG. 6B

FIG. 7 PROGRAM FOR ACCESSING REGISTRATION INFORMATION FOR A THIRD PARTY WEB SITE (MAY BE INVOKED BY FIGS. 6A AND 10)

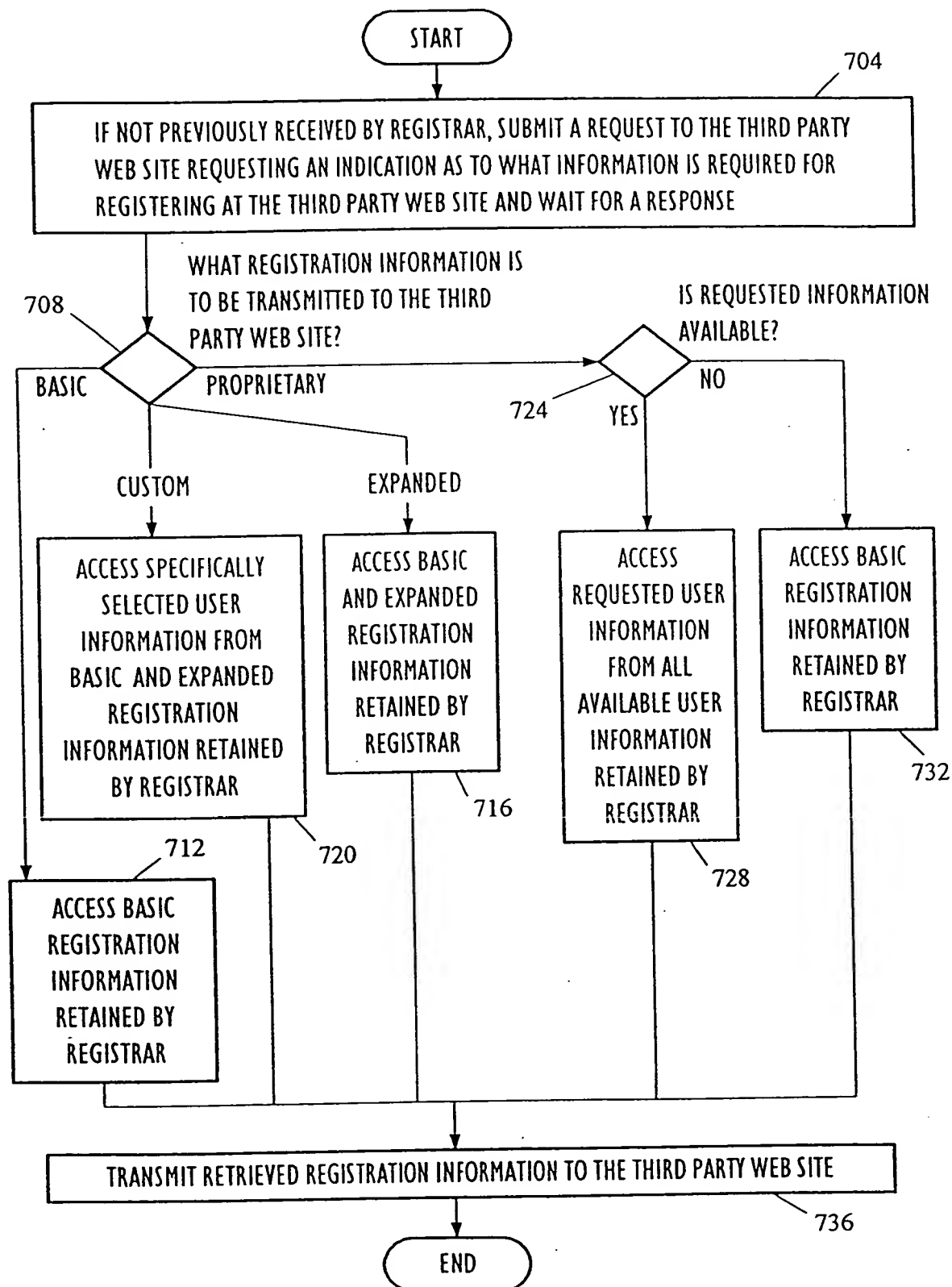


FIG. 8

REGISTRAR STORES THIRD PARTY WEB SITE USER ID AND PASSWORD
(MAY BE INVOKED BY FIG. 6B)

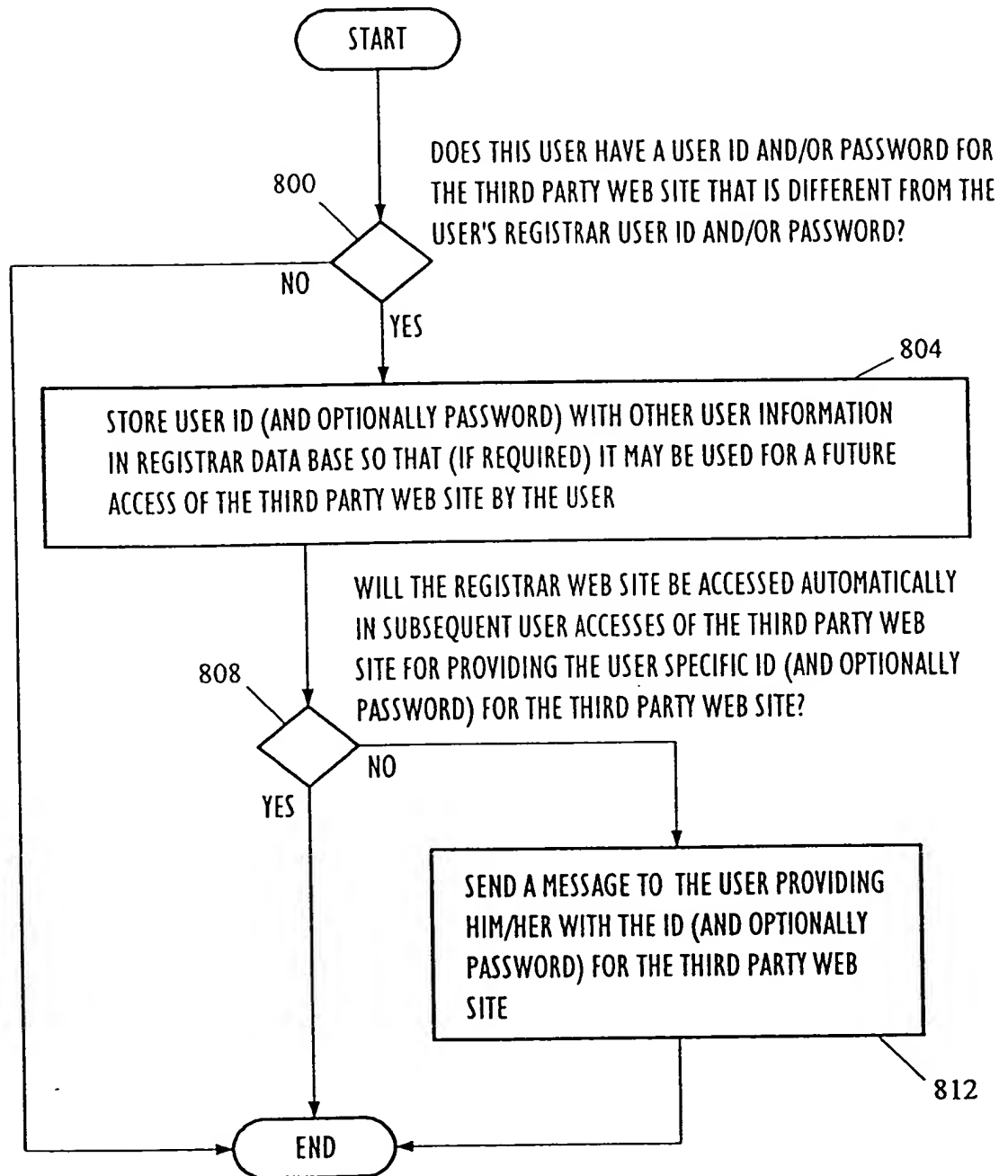


FIG. 9 REGISTRATION TRANSMISSION PROCESS BETWEEN REGISTRAR ON
THE USER'S NETWORK NODE AND A THIRD PARTY WEB SITE
(INVOKED BY THE USER)

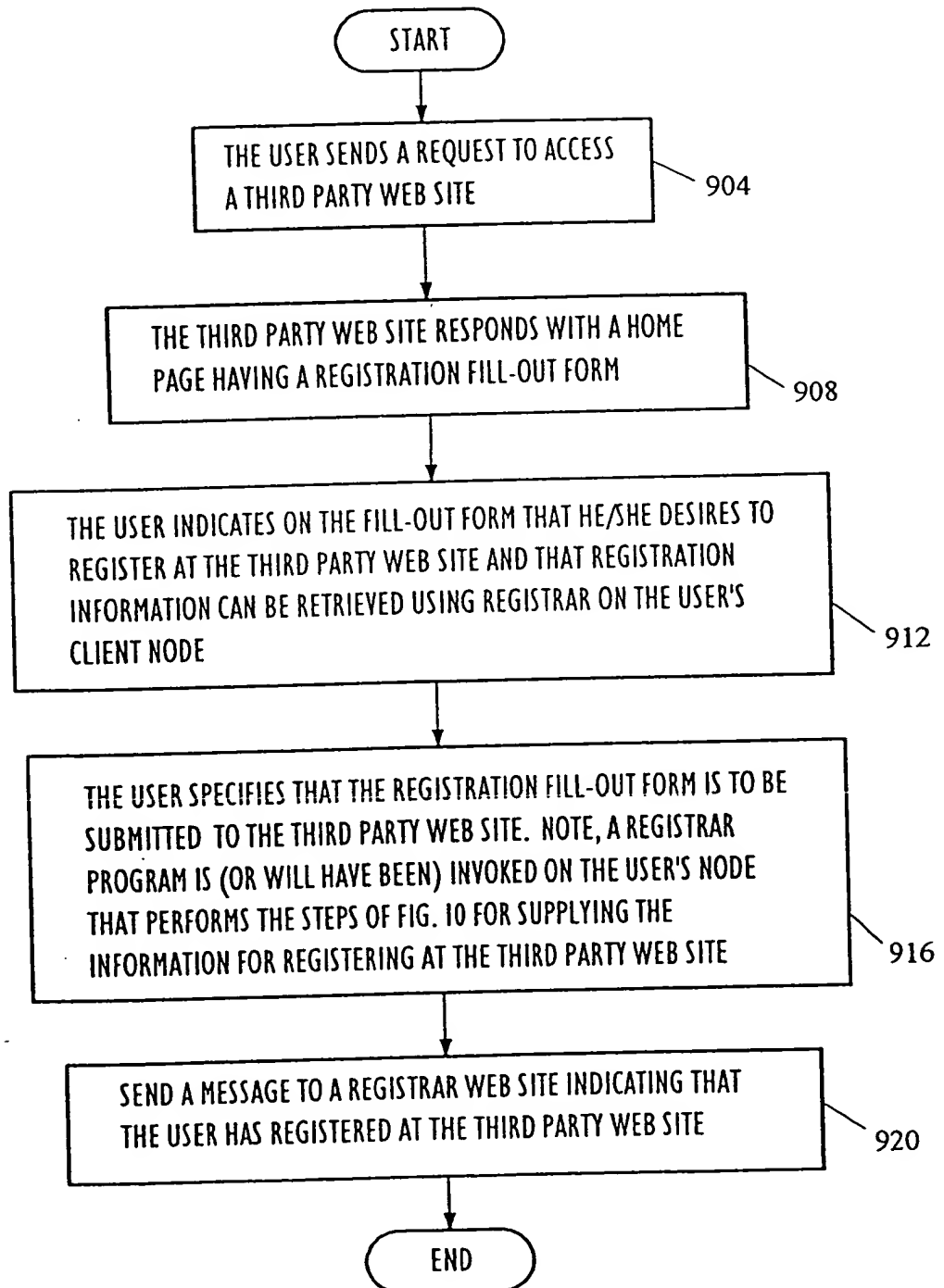


FIG. 10

PROGRAM FOR SUPPLYING A THIRD PARTY WEB SITE WITH
REGISTRATION INFORMATION RETAINED BY REGISTRAR ON THE
USER'S NODE (MAY BE INVOKED BY FIG. 9)

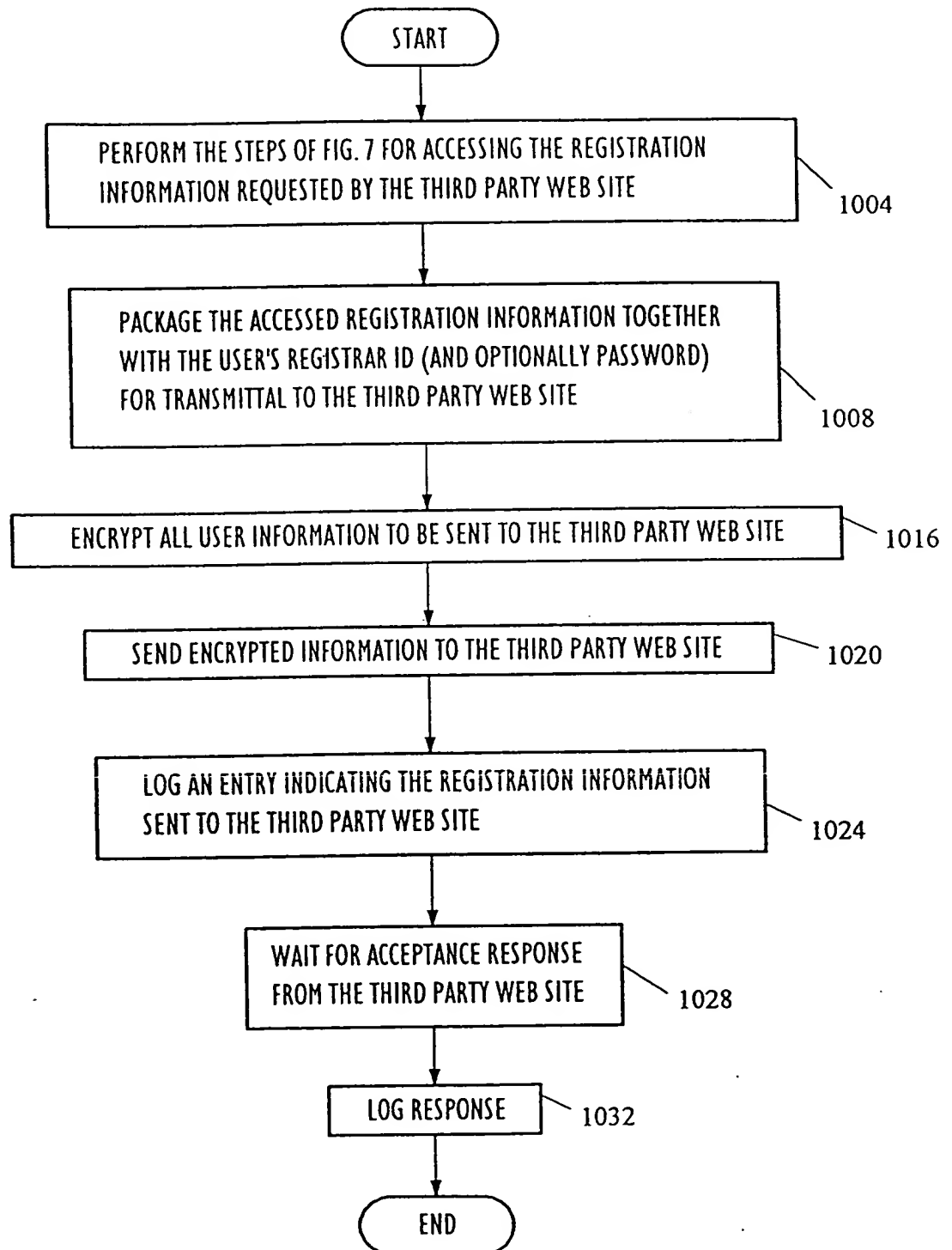
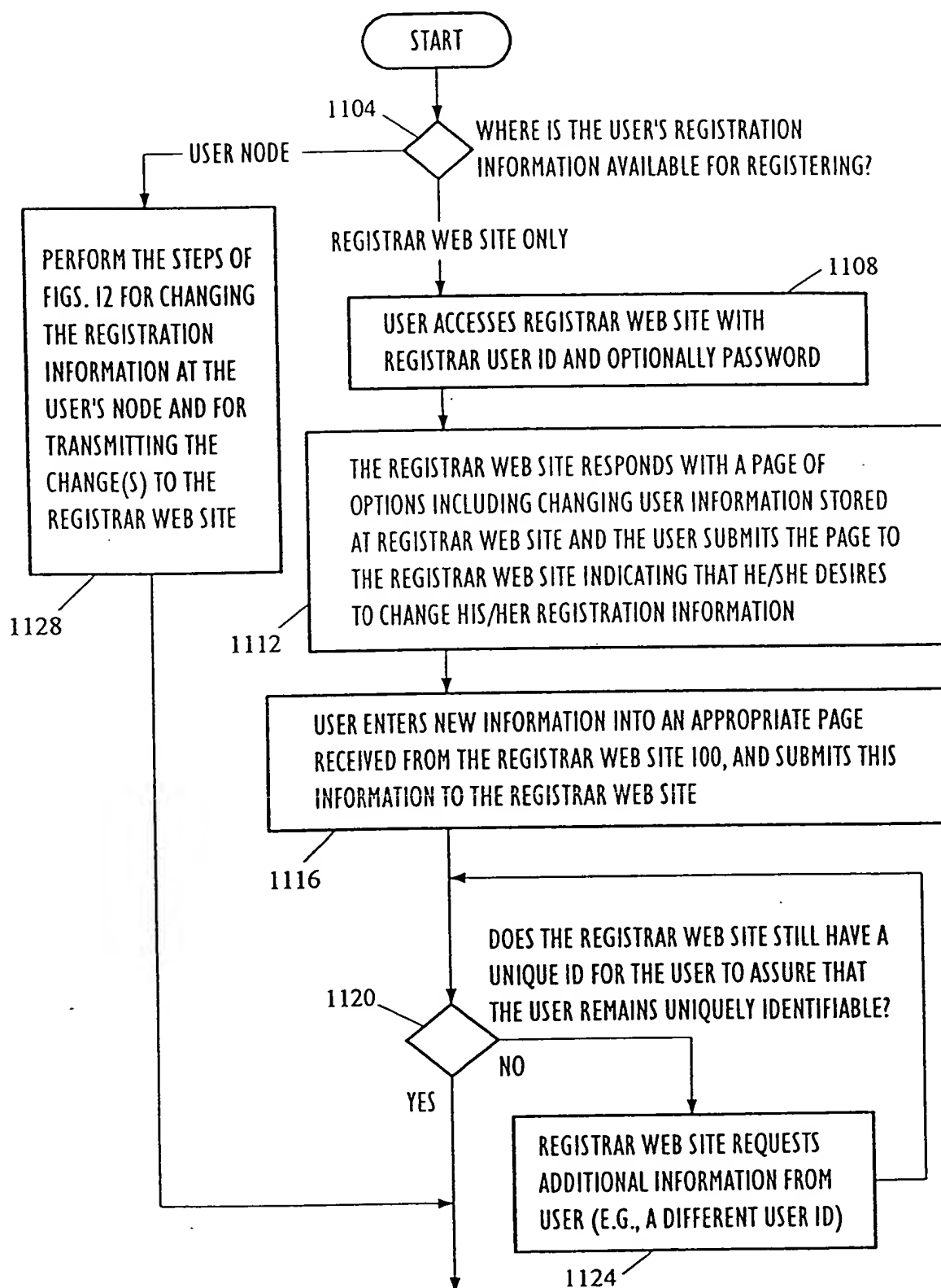


FIG. 11A

CHANGE USER INFORMATION IN REGISTRAR (INVOKED BY THE USER)



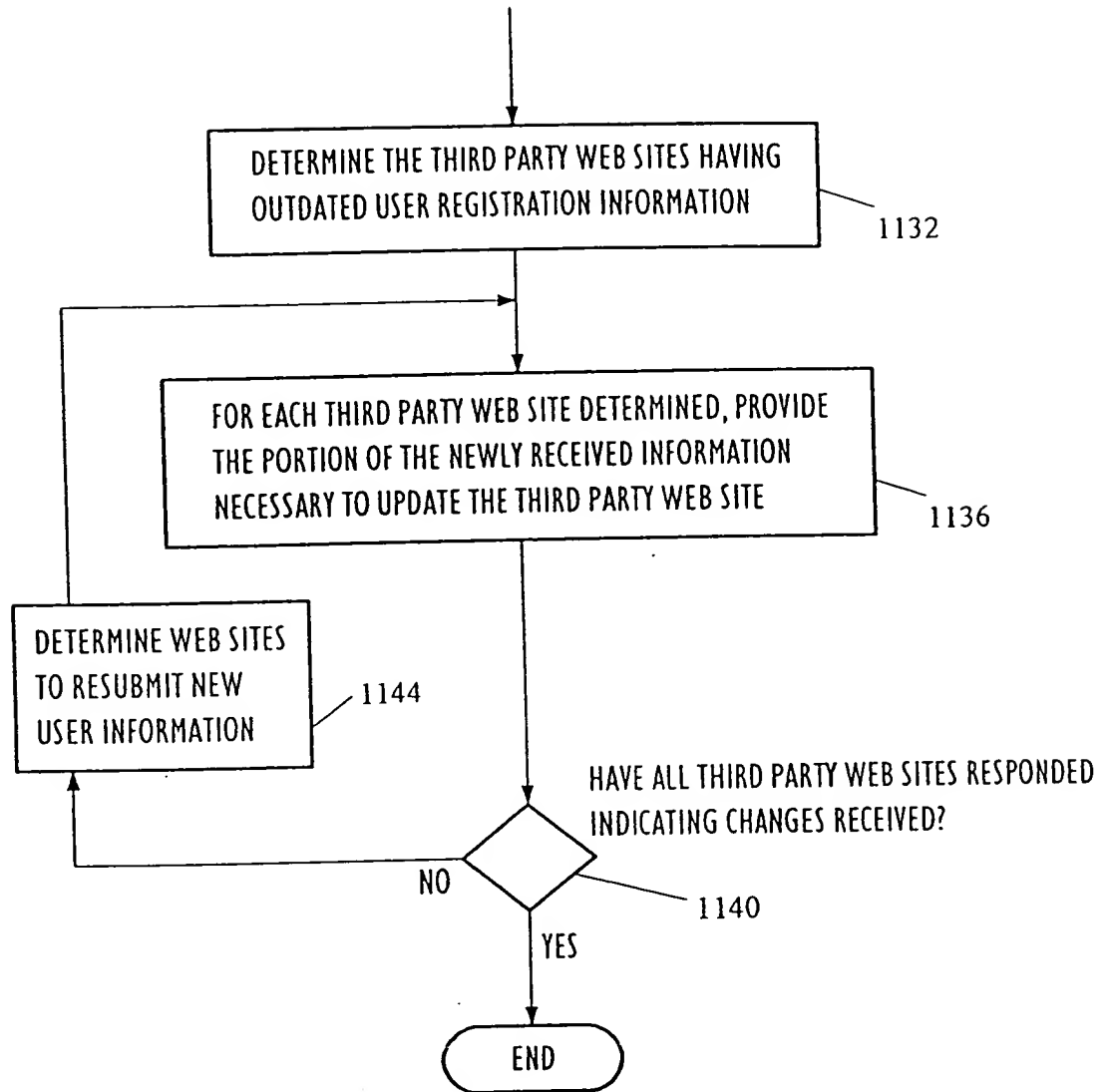
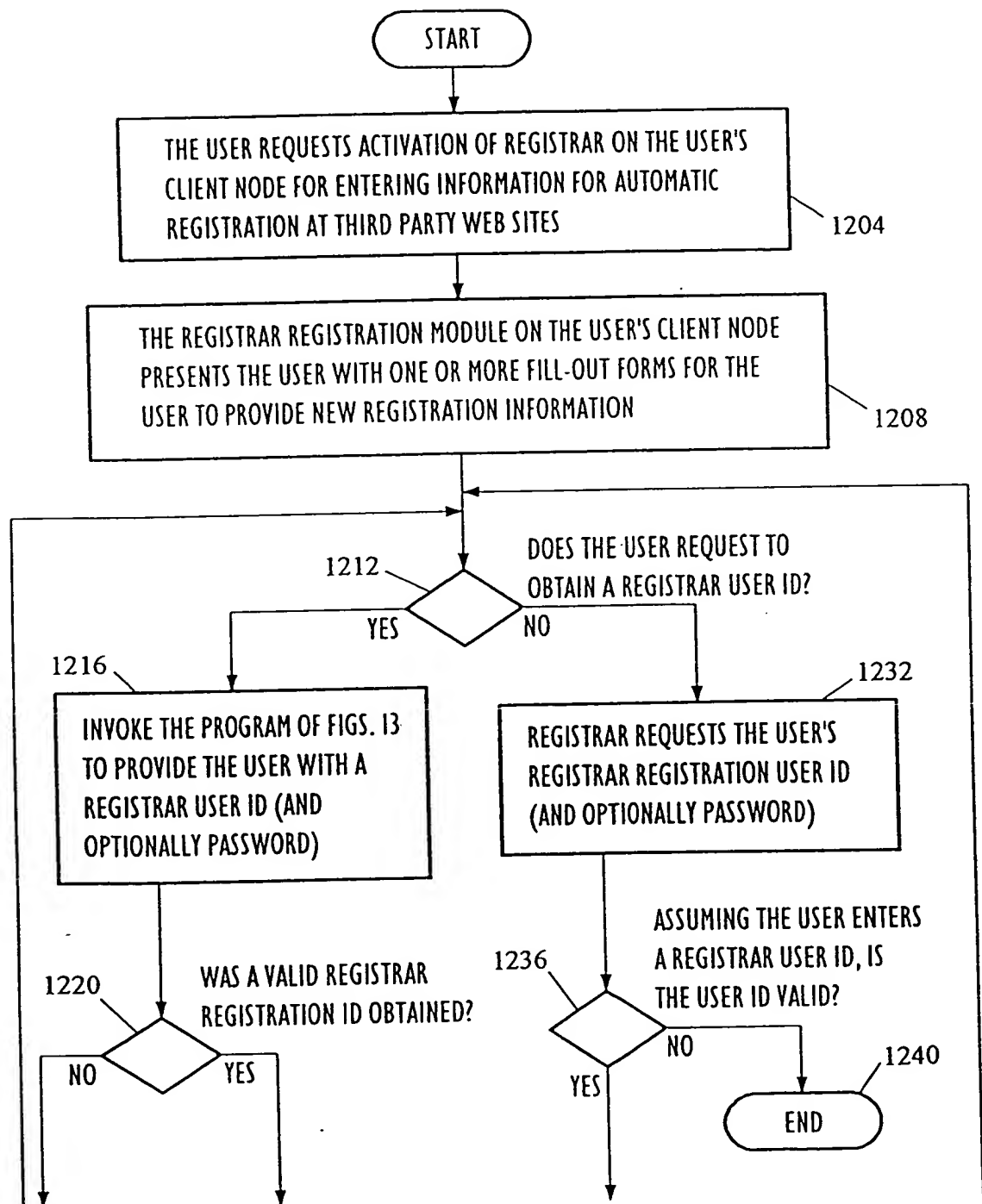


FIG. 11B

FIG. 12A USER ENTERS REGISTRATION INFORMATION INTO THE USER'S CLIENT NODE FOR TRANSMITTAL FROM THE USER'S NODE TO THE REGISTRAR WEB SITE (MAY BE INVOKED DIRECTLY BY THE USER OR BY FIGS. 11)



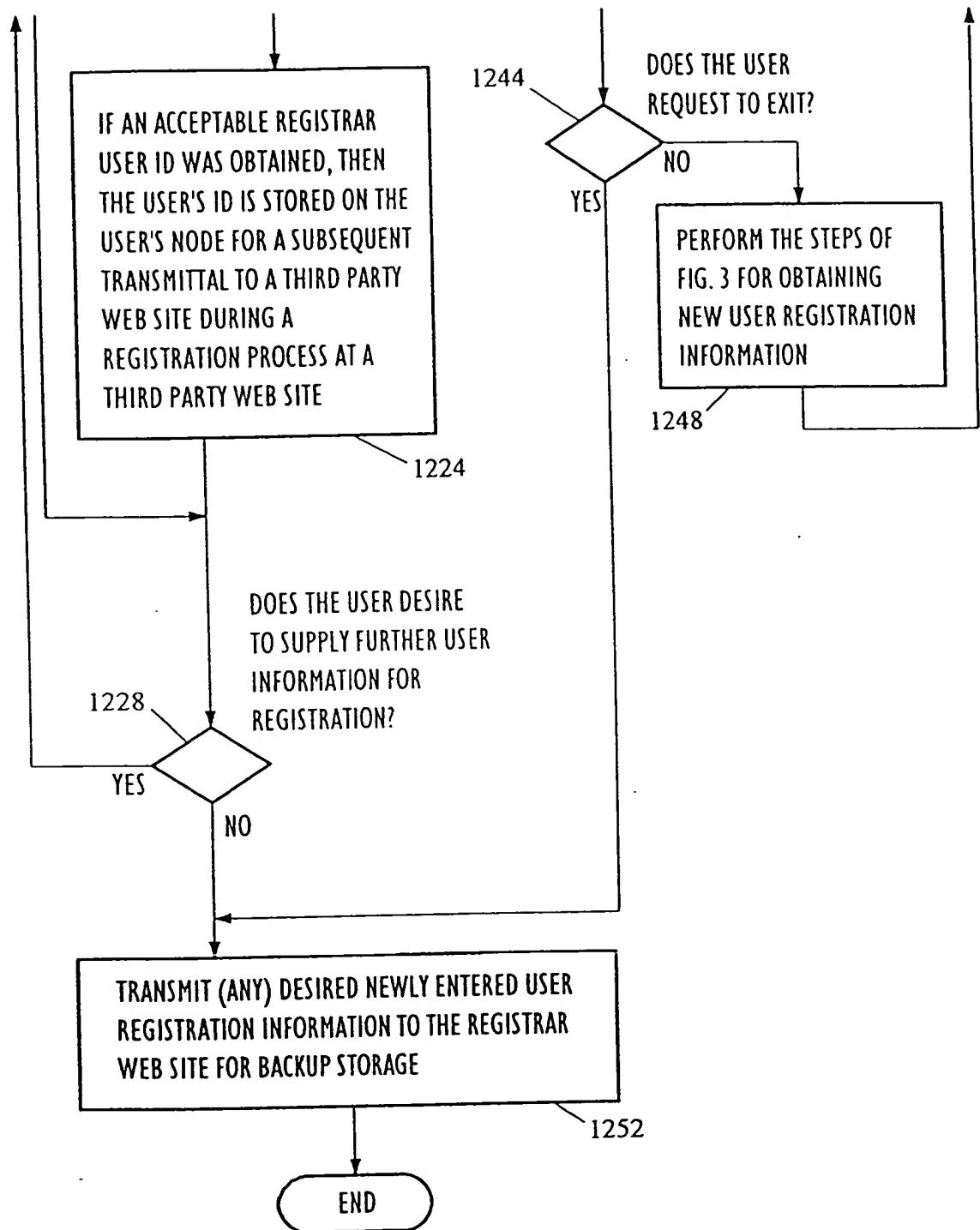
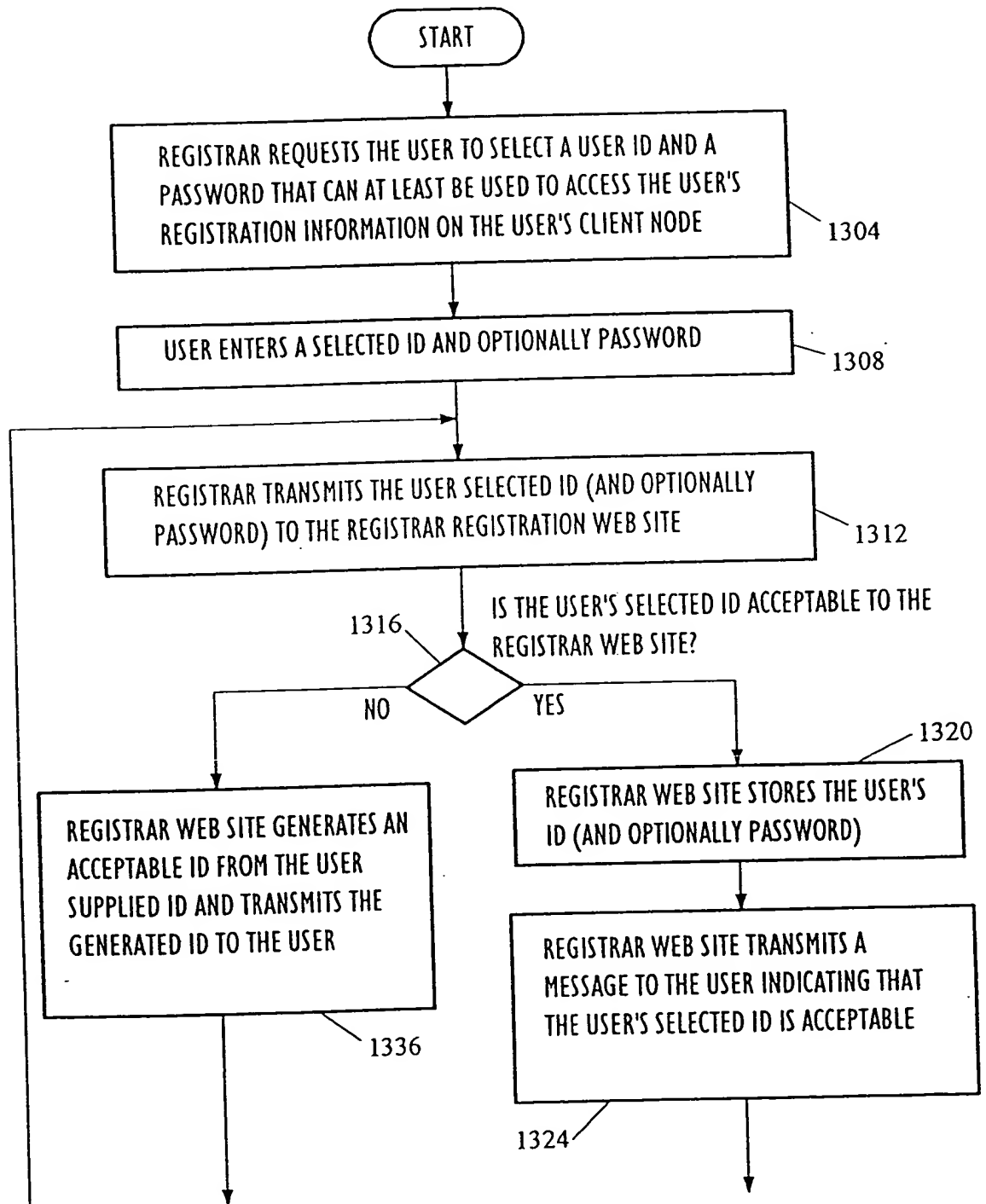


FIG. 12B

FIG. 13A REGISTRAR USER ID PROVIDED FOR USER WHEREIN THE USER'S WEB SITE REGISTRATION IS MAINTAINED ON THE USER'S CLIENT NODE



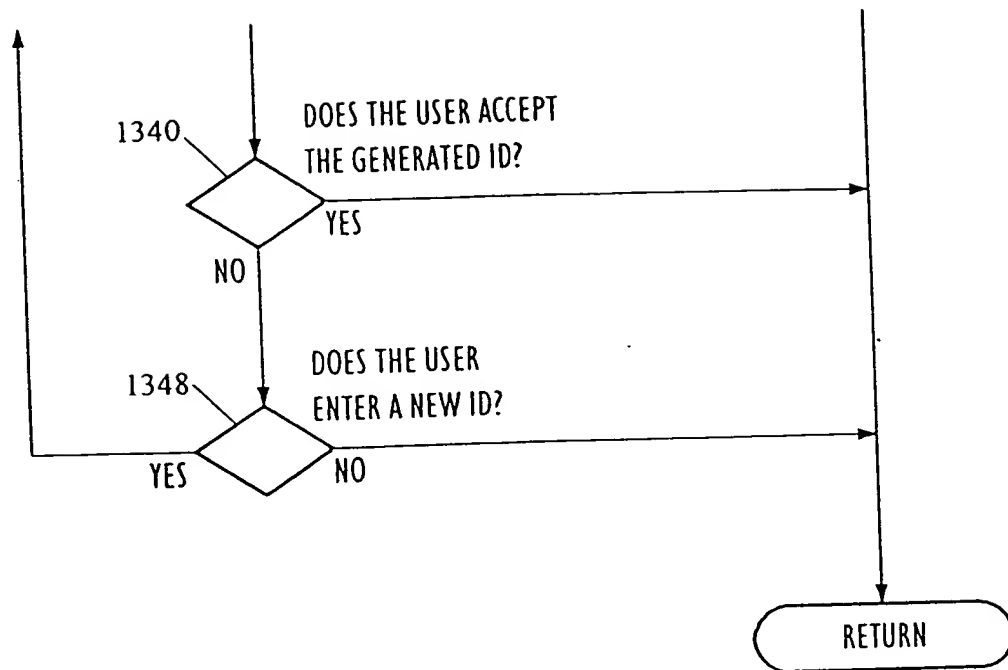


FIG. 13B

**UNITED STATES DEPARTMENT OF COMMERCE****United States Patent and Trademark Office**Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/884,779	06/19/01	KLUG	J 5822.03

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370 SEVENTEENTH STREET
DENVER CO 80202-5647

TM02/1023

EXAMINER

WANG, M

ART UNIT

PAPER NUMBER

2171

DATE MAILED: 10/23/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.

09/884,779

Applicant(s)

KLUG ET AL

Examiner

Mary D. Wang

Art Unit

2171

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 June 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☒ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Oath/Declaration

1. The oath or declaration is defective. A new oath or declaration in compliance with 37 CFR 1.67(a) identifying this application by application number and filing date is required. See MPEP §§ 602.01 and 602.02.

The oath or declaration is defective because: it fails to claim the priority dates for the benefit of 60/008,736, filed on 12/11/1995, which is a continuation of 09/128,915, filed on 08/04/1998, which is a continuation of 08/595,837, filed on 02/02/1996.

Priority

2. This application filed under former 37 CFR 1.62 lacks the necessary reference to the prior application. A statement reading "This is a continuation of Application No. 08/595,837, filed 02/02/1996 and 09/128,915, filed 08/04/1998." should be entered following the title of the invention or as the first sentence of the specification. Also, the current status of the parent nonprovisional application(s) should be included.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

4. Claims 1, 3-11 are rejected under 35 U.S.C. 102(e) as being anticipated by Chen et al., U. S. Patent 5,590,197.

As to claim 1, Chen teaches a method for registering a user at a plurality of user requested nodes of a communications network wherein nodes of the network are identified using an Internet address scheme, comprising (Fig. 1):

- a) First storing registration information related to the user in a first data store on a first node of said network (column 3 line 33 – column 7 line 9);
- b) Second storing of said registration information in a second store on a second node of said network, said second node being different from said first node (column 3 line 33 – column 7 line 9);
- c) Providing the user with a user identification code permitting access to said registration information in at least one of said first and second stores (column 3 line 33 – column 7 line 9);
- d) Supplying to at least one requested node of said plurality of requested node (column 3 line 33 – column 7 line 9):
 - i. Said user identification code for registering the user at said at least one requested node, and
 - ii. Said registration information transmitted from one of said first and second stores for registering the user at said at least one requested node.

As to claim 3, Chen teaches said communications network utilizes an internet protocol (column 3 line 33 – column 7 line 9 and Fig. 1).

As to claim 4, Chen teaches providing a modification to said registration material on one of said first and second stores to the other of said first and second stores (column 3 line 33 – column 7 line 9).

As to claim 5, Chen teaches retaining said modification in said first and second stores, wherein said modification is transmitted to said at least one requested node in said step of supplying from one of said first and second stores (column 3 line 33 – column 7 line 9).

As to claim 6, Chen teaches said first step of storing includes inputting said registration information by the user (column 3 line 33 – column 7 line 9).

As to claim 7, Chen teaches said second step of storing includes transmitting said registration information from said first node to said second node using said communication network.

As to claim 8, Chen teaches inputting user identification from said first node; transmitting said user identification to said node; and using said user identification at second node for determining said user identification code (column 3 line 33 – column 7 line 9).

As to claim 9, Chen teaches requesting by said at least one requested node, said registration information from said second node (column 3 line 33 – column 7 line 9).

Claims 10-11 are rejected for the similar reason as claim 1, which was discussed above.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. Claims 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chen et al., U. S. Patent 5,590,197 in view of Johnson et al., U. S. Patent 5,813,009.

As to claim 2, Chen teaches said first node is a server node and said second node is a client node (column 3 line 33 – column 7 line 9).

The difference between the present application and the teach of Chen is following:

Chen teaches storing the registration information on the server first, and then storing the registration information on the user side. The present application claims the registration information is stored on the client side first, and then the server side.

Johnson teaches storing registration information on the client side first, and then the server side (column 23 line 55-65).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to allow Chen's registration information to be stored in on the user

said first and one the server side thereafter because it will be efficient to process the updated registration information.

Double Patenting

8. A rejection based on double patenting of the "same invention" type finds its support in the language of 35 U.S.C. 101 which states that "whoever invents or discovers any new and useful process ... may obtain a patent therefor ..." (Emphasis added). Thus, the term "same invention," in this context, means an invention drawn to identical subject matter. See *Miller v. Eagle Mfg. Co.*, 151 U.S. 186 (1894); *In re Ockert*, 245 F.2d 467, 114 USPQ 330 (CCPA 1957); and *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970).

A statutory type (35 U.S.C. 101) double patenting rejection can be overcome by canceling or amending the conflicting claims so they are no longer coextensive in scope. The filing of a terminal disclaimer cannot overcome a double patenting rejection based upon 35 U.S.C. 101.

9. Claims 1-11 are rejected under 35 U.S.C. 101 as claiming the same invention as that of claims 1-11 of prior U.S. Patent No. 5,790,785. This is a double patenting rejection.

10. Claims 1-11 are rejected under 35 U.S.C. 101 as claiming the same invention as that of claims 1-11 of prior application No. 08/128,915. This is a double patenting rejection.

Inquire

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mary Wang whose telephone number is (703)-305-0084. The examiner can normally be reached on Monday – Thursday from 8:00 AM to 5:30 PM. The examiner can also be reached on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tom Black, can be reached on (703) 305-9707.

The fax phone number for the organization where this application or proceedings is assigned are as follows:

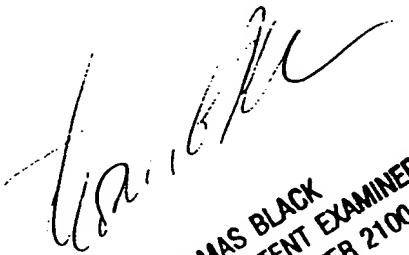
(703) 746-7238 (After Final Communication)

(703) 746-7239 (Official Communications)

(703) 746-7240 (For Status inquiries, draft communication)

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-3900.

Mary Wang
Patent Examiner
Art Unit 2171
October 9, 2001


THOMAS BLACK
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100

United States Patent [19]

Chen et al.

[11] Patent Number: 5,590,197

[45] Date of Patent: Dec. 31, 1996

[54] ELECTRONIC PAYMENT SYSTEM AND METHOD

[75] Inventors: James F. Chen; Jieh-Shan Wang, both of Potomac, Md.

[73] Assignee: V-ONE Corporation, Rockville, Md.

[21] Appl. No.: 416,045

[22] Filed: Apr. 4, 1995

[51] Int. Cl.⁶ H04L 9/00

[52] U.S. Cl. 380/24; 380/4; 380/49; 380/30

[58] Field of Search 380/3, 4, 23, 24, 380/25, 49, 30

[56] References Cited

U.S. PATENT DOCUMENTS

5,373,561 12/1994 Haber et al. 380/49
5,511,122 4/1996 Atkinson 380/25

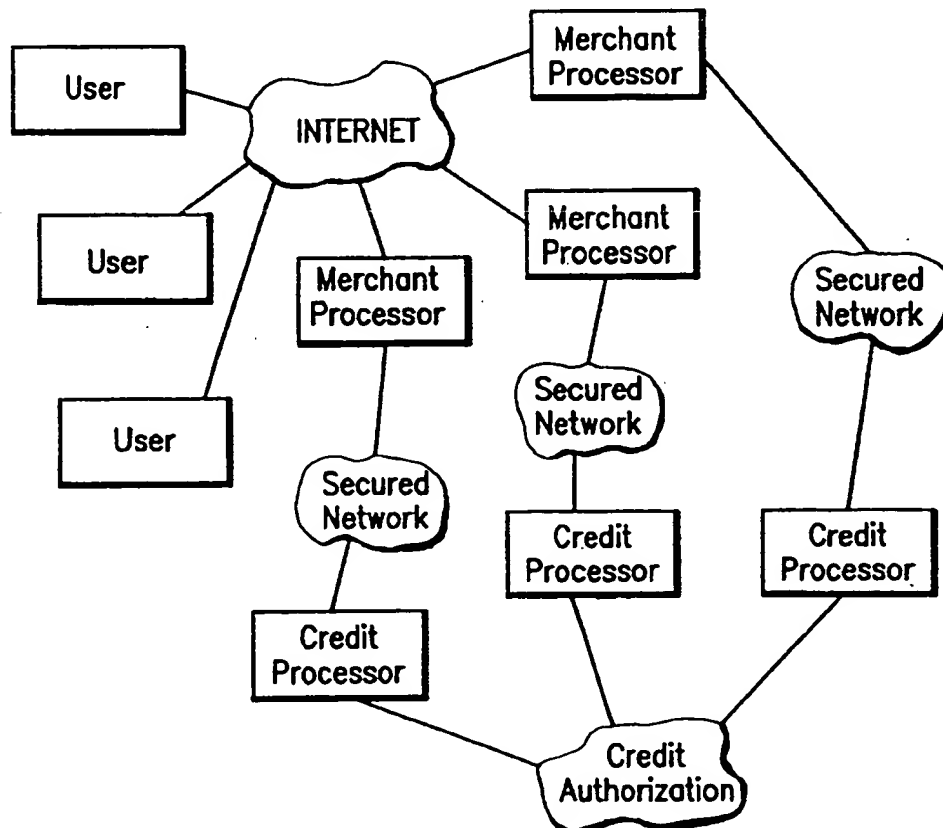
Primary Examiner—David C. Cain
Attorney, Agent, or Firm—Bacon & Thomas

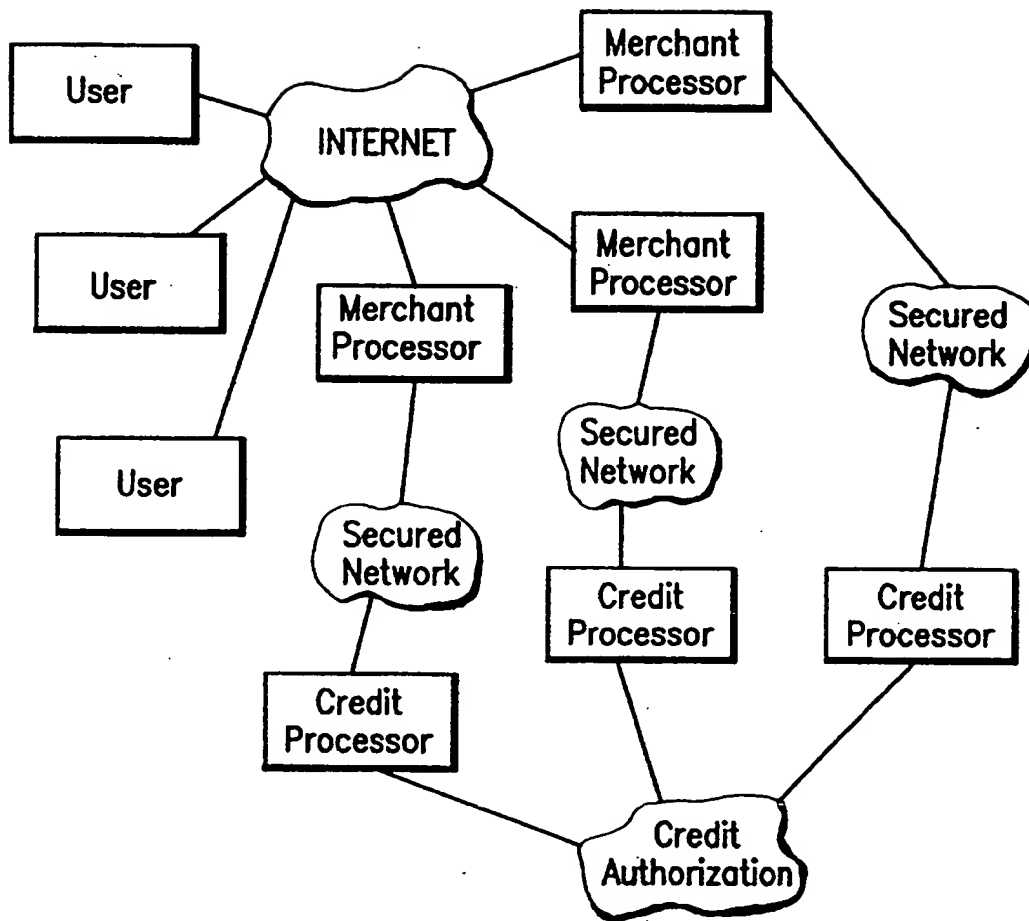
[57] ABSTRACT

A cyber wallet in the form of stored and protected account information, which may be "carried" on a tamper resistant

portable electronic storage medium such as a smartcard, or stored on the customer's computer (or personal digital assistant, PCMCIA card, or the like) together with the browser/mosaic software, is provide to a customer for the purpose of making electronic payments from the possessor of the wallet to a merchant at a remote site on the Internet. Security of the information contained in the wallet is provided by a public key file containing public keys to be used for encrypting the payment information into an authorization ticket which is sent by the wallet to the merchant, and then forwarded to the account servicer for decryption, the decryption key being in the form of a private key held only by the account servicer, and to which the merchant and other parties have no access. The public key file preferably contains a plurality of public keys selectable by an identifier associated with but not a part of the key itself, so that the account servicer can control, by having the merchant send an identifier to the wallet, the selection of uncompromised keys without anyone but the servicer having knowledge of which key is being selected.

12 Claims, 1 Drawing Sheet



*Figure 1*

ELECTRONIC PAYMENT SYSTEM AND METHOD

BACKGROUND OF THE INVENTION

1. Field of the Invention

This invention relates to a new type of financial entity referred to as a "cyber wallet." The cyber wallet consists of information and files which enable the holder to safely carry out transactions requiring electronic payment over an open communications network, as well as hardware necessary to carry out the transactions.

In describing the invention, the provider of services or goods will be referred to as a "merchant," and the provider of the wallet, which will typically be a credit card company, bank, or account servicer, will be referred to as the "servicer." In addition, it will be appreciated by those skilled in the art that the cyber wallet can be used for a variety of transactions, including both credit and debit type transactions, although for convenience the term "credit" will be used to describe all such transactions.

2. Description of Related Art

In a conventional point-of-sale credit transaction, the purchaser physically presents a credit card to a merchant who verifies the authentication information by comparing a signature on the card with the cardholder's signature, and reads the account number from the card so that it can be transmitted to the credit card servicer for authorization.

The level of security for the parties who have a stake in the transaction, i.e., the authorized owner of the card, the merchant, and the credit card company, depends on two factors: the ability of the merchant to authenticate the card by comparing signatures and recognizing a forgery, the ability and honesty of the merchant in protecting the account information necessary to carry out the transaction.

Much attention has recently been paid to the problem of card authentication. For example, secret codes or PIN numbers have been relatively widely implemented to prevent access to the information on the card unless the cardholder is an unauthorized user of the card. In addition, a variety of proposals have been made for further verifying the authenticity of the card to ensure that the card is not a forgery. For example, copending U.S. patent application Ser. No. 08/285, 234, discloses a system which completely eliminates the risk of card forgery, and at the same time provides for verification of the identity of the cardholder using a PIN number system, virtually eliminating the risk that the card is a forgery and that the presenter of the card, disclosed as a chip card, is not an authorized user of the card. In this system, the card had stored thereon, together with the account information, a forgery proof digital signature generated using the private key of a private-public key cryptosystem, and which can be verified by anyone with a stake in the transaction using the public key of the cryptosystem.

On the other hand, much less attention has been paid to the problem of protecting the transaction facilitating information once the card has been authenticated, and in particular to the problem of misuse of the information by the merchant. Protection in this area has traditionally relied on the card owner's knowledge of the legitimacy of the merchant, which is reasonable when the card owner is at the point-of-sale and can rely on the merchant's investment and need to maintain a reputation. Protection is less likely when the card owner is not at the point-of-sale, however, and the transaction is being carried out by telephone, but at least the customer can rely on government regulation of telephone

solicitors, and the investment necessary to maintain a phone bank and advertising. While fraud on the part of merchants, and of third party interceptors of the credit information has been a source of substantial losses to customers and credit card companies, the risk has generally been viewed as unavoidable and offset by the convenience of credit card transactions.

This balance between convenience and risk has now been substantially altered by the development of a new form of electronic communications, namely the Internet, in which the only investment necessary to set up as a merchant is a personal computer and an Internet account, in which the merchant and customers may be spread around the globe, and in which there is no effective regulation of the flow of information and who has access to the information.

Unless information access to the credit payment and verification is strictly controlled, and the user providing his credit card number in payment to a merchant can be reasonably certain that the merchant is legitimate and that no unauthorized users will have access to the payment information, remote purchases still carry unacceptably high risks from the point-of-view of the consumer and/or the company or bank which guarantees payments made using the card.

Despite these risks, there is a rapid trend towards increasing use carrying out transactions over the least controlled public network available, namely the Internet. In such transactions, the "merchant" is often nothing more than an electronic address, and it is impossible for anyone to ensure that whoever is receiving the payment information is legitimate. Thus, such remote electronic transactions carry significant risks for both the customer and the credit provider. The customer is faced with the problem of misuse of his or her account information, either by someone who has intercepted the information, or by a dishonest or compromised merchant, while the credit issuer is faced with the problem of verifying that a request for payment from a merchant is in response to a legitimate order.

The Internet was originally designed as a way of communicating research information, but recent advances in communications and computer technology has made access to the Internet available to a mass world-wide audience. To a merchant, the Internet is potentially not only a way of transmitting information, but also a way of bringing a global market to his or her doorstep. In practice, however, the lack of an effective way of securing transfers of funds has prevented optimal utilization of the Internet's potential as a global marketplace for goods and services as well as ideas.

In order to be useful, a system of electronic payments must provide not only protection of account information and authentication of all information having to do with the transaction, but also should be compatible with the existing infrastructure of credit card issuers, without the need for significant added hardware, and it should be exportable, i.e., in compliance with U.S. export restrictions on the export of mass encryption technology. Thus, conventional cryptographic systems alone cannot solve the problems of Internet commerce and unlikely ever to be implemented, because while key distribution systems are in theory possible in which only the purchaser and merchant have access to communications between them, such systems are complicated and relatively expensive due to the need for a secured third party key server at both ends of the transaction, because cryptographic technology cannot be freely distributed over the Internet due to export restrictions by the U.S. government, and because of the more fundamental problem that even if communications with a merchant are protected,

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there is no guarantee that the merchant will protect the information or even that the intended recipient of the information will not misuse it.

It is true that in any transaction, someone must be trusted. However, most consumers and merchants would agree that the party to be trusted is not the purported consumer or the merchant, but rather the credit card company (or bank), which can more easily be regulated by appropriate watchdog agencies, and which is the party that ultimately carries the risk of a fraudulent transaction.

The system disclosed herein builds upon the protection provided by the card authentication provisions disclosed in the above-cited copending application, which ensures that the token or card containing information on the purchaser's right to participate in the transaction, and provides a new way of protecting that conveying that information to the credit card servicer without significant risk of misuse by the merchant or any other party capable of intercepting the information after the card has been authenticated and the necessary information retrieved and it does so using well known public-private key cryptographic technology which fully protects the public interest in preventing the use of cryptography for criminal purposes.

Furthermore, the system described herein greatly expands upon the concept of the credit card itself, with the information provided to the customer by his credit card issuer or bank being contained in the form of a "cyber wallet," whose utility will become apparent to those skilled in the art based on the following description.

SUMMARY OF THE INVENTION

It is accordingly a principal objective of the invention to enable a party to make electronic payments using a new payment medium referred to herein as the cyber wallet. The cyber wallet may be thought of as an expansion of the credit card concept into a concept involving multiple cards with multiple issuers in a convenient package designed to enable the holder of the cyber wallet to make purchases over the vast global communications network known as the Internet, with full protection of the electronic payment information from not only eavesdroppers, but also from remote merchants, without the need to verify the trustworthiness of the merchant.

It is a further objective of the invention to provide a system of electronic payment which has the advantages described above and which further can easily be utilized in connection with the system and method described in U.S. patent application Ser. No. 08/285,134, in order to ensure the authenticity of the payment information itself and prevent forgeries of the "cyber wallet," thereby providing protection for all parties to the cyber transaction.

It is another objective of the invention to provide a system and method for enabling a merchant to collect account information from remote purchasers over an unsecured public data communications network, which uses the existing credit card verification and servicing infrastructure with minimal hardware additions.

It is yet another objective of the invention to provide a system and method for enabling a merchant to collect account information from remote purchasers over an unsecured public data communication network, which utilizes exportable EDI technology.

These objectives are achieved, in accordance with the principles of a preferred embodiment of the invention, by providing at the customer end/user side of the system, an

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electronic wallet in the form of stored and protected account information, which may be "carried" on a tamper resistant portable electronic storage medium such as a smartcard, or stored on the customer's computer (or personal digital assistant, PCMCIA card, or the like) together with the browser/mosaic software which will enable the customer to utilize the wallet for transactions carried out on the Internet, and by also providing in the wallet a public key file containing public keys to be used for encrypting information necessary to carry out a remote transaction, the decryption key being in the form of a private key held only by the account servicer, and to which the merchant and other parties have no access.

As a result, a customer in possession of the wallet can easily make purchases from any merchant on the Internet or WorldWide Web by simply causing the a public key encrypted authorization ticket to be transmitted to the merchant, the merchant then forwarding the ticket to the account servicer for decryption and approval of the transaction based on the status of the customer's account and the amount of the transaction supplied to the account servicer with the ticket.

In an especially preferred embodiment of the invention, the public keys are held only by the possessor of the wallet, and control of the keys by the account servicer is maintained by having the merchant forward to the wallet a public key identifier for selecting a key, thus allowing the account servicer to change the keys associated with a merchant or prevent the use of unauthorized keys, without the merchant or any third party ever having access any of the public keys in the wallet, and without any involvement on the part of the customer or his or her wallet.

BRIEF DESCRIPTION OF THE DRAWINGS

The FIGURE is a schematic diagram of a system of enabling secure electronic payments over an unsecured network according to a preferred embodiment of the invention.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

FIG. 1 shows the overall architecture of the preferred system for utilizing an open communication network such as the Internet as a medium for the transfer of credit card account information. The system on which the cyber wallet is utilized includes a plurality of users, each provided with an individual cyber wallet, the users being connected to a plurality of merchant processors over the Internet (for example, by means of the World-Wide Web). Each of these merchant processors is connected by means of a secured network or by means of a secret tunneling or other channel protecting procedure to a credit processor held by at least one account servicer. As will be described in more detail below, payment information is transferred from a user to a merchant processor in the form of a public key encrypted authorization ticket, which is then forwarded by the merchant to the credit processor. All unprotected communications over the Internet are presumed to be accessible by unauthorized parties, and all merchants are subject to suspicion. The credit processors, however, are presumed to be secure and trustworthy.

The cyber wallet on which the preferred system and method is based is in the form of any account and/or personal information required to be transmitted to the account servicer in order to verify the account status, and which may be "carried" on a tamper resistant portable

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electronic storage medium such as a smartcard, or stored on the customer's computer (or personal digital assistant, PCMCIA card, or the like) together with the browser/mosaic software which will enable the customer to utilize the wallet for transactions carried out on the Internet, and a public key file which will be described below. For some purposes, information in the wallet could also be accessible solely through use of a PIN mechanism, such as might be included in a smart card of the type described in the copending application cited above, in order to ensure compatibility with such systems.

It should be appreciated that the particular information contained on the card will vary depending on the requirements of the account servicer, as will the particular browser software included in the wallet. These elements per se are not part of the invention, but rather it is their combination with the public key file and the manner in which they are used to carry out a transaction that constitutes the invention.

Those skilled in the art should also appreciate that, although the "wallet" may be contained in a smartcard or other physical device, it may also exist purely as software (which is why the "wallet" is referred to herein as a "cyber wallet"). This is not to say that the cyber wallet is merely a virtual or abstract concept, however. The cyber wallet does exist in static physical form, in the form of instruction stored in a memory device, or programmed into the wiring of an integrated circuit, and will be used by the customer in the same manner as a credit card.

In one embodiment, for example, the cyber wallet is contained on a smartcard which can be inserted into a card reader in a manner similar to the manner in which existing credit or debit cards are used, without the need for entry of additional information. In this embodiment, the cyber wallet can be provided on the card using the procedures described in the above-mentioned copending U.S. patent application Ser. No. 08/285,134. In another embodiment, however, the cyber wallet is in the form of software provided to the consumer by his credit card company or bank, and may be stored on the consumer's personal computer rather than being physically carried around like a smartcard.

In either case, the cyber wallet includes what ever information is needed by the account servicer to authorize a transaction and, uniquely, a file containing a plurality of public keys. These public keys are an important feature of cyber wallet because it is these keys that are used to protect the information on the card as it is being transmitted to the merchant. Essentially, the concept of the key file is to use one of the public keys of a public-private key cryptosystem to encrypt the necessary information and send the encrypted information in the form of an "authorization ticket," which can then be forwarded by the merchant together with order information, as necessary, to the account servicer/authenticator in order to obtain authorization from the account servicer which allows the transaction to be completed. By using public keys to encrypt the information, so that the information can only be decrypted by the party in possession of the associated private key, the information can be fully protected as it is passed electronically to the merchant, and from the merchant to the account servicer.

The inclusion of a public key file in the cyber wallet is to be distinguished from the inclusion of card authentication information. As noted above, the authenticity of the information can be made fully verifiable by using the method described in copending U.S. patent application Ser. No. 08/285,134, in which the information is associated with a digital signature which may be decrypted by anyone in

6

possession of a public key. The present invention involves public key encryption of any information contained in the wallet which is necessary to authenticate the transaction, and private key decryption, the private key being held under secured conditions by the account servicer who carries the ultimate risk of any fraud.

As an additional measure of security, the public key file contained in the wallet contains means for varying the public key used to encrypt the authorization ticket, thus reducing the likelihood that one of the keys could be compromised.

Use of the cyber wallet is carried out as follows:

First, the wallet is created by the account servicer or provider under secured conditions, by gathering together all information necessary to carry out credit transactions remotely over the Internet, including browser/mosaic software if necessary, account information, a user PIN number, a user ID, MAC, and any other information which might be needed during the payment and authentication process. This information is associated with a public key file preferably containing a plurality of public keys associated with a single root key, and key identifiers. The entire wallet is then provided to the customer, in any form which enables the customer to utilize the wallet, for example as a software package for use on the customer's portable computer, or on a smart card which can be carried around by the customer and used at kiosks provided with smart card readers.

When a transaction is to be carried out, the customer selects the appropriate wallet, depending for example on which "credit card" he or she wishes to use, by retrieving the software from a disk, or inserting a smart card into a card reader, and establishes communications with the merchant. The customer then makes an order and the merchant requests an authorization ticket in the form of payment or account information encrypted by one of the public keys in the public key file. Selection of the public key may be in response to transmission from the merchant of a public key identifier associated with the public key. If the card has been inserted into a card reader, or if the software has been provided with provision for accepting a PIN number, entry of the PIN number can be required to proceed with the transaction at this time to unlock the information stored in the wallet or to verify the user identity as part of the credit card verification, and in addition the authenticity of information in the wallet can be verified using the techniques described in copending U.S. patent application Ser. No. 08/285,134.

When the merchant receives the authorization ticket, the merchant then embeds or associates it with whatever information the merchant needs to provide the account servicer. The authorization ticket is then forwarded to the account servicer, at which point the account servicer uses the private key associated with the selected public key in order to decrypt the file and verify the status of the account. If the transaction is approved, the account servicer then sends an approval message back to the merchant, together with decrypted information necessary for the merchant's records.

It will of course be appreciated by those skilled in the art that rather than changing public keys by having the merchant instruct the cyber wallet which of a plurality of keys to use based on a key identifier, which may for example be provided to the merchant by the account servicer, which can thus prevent the use of compromised keys, a public key can be replaced by other means, for example by including provision in the cyber wallet for decrypting a new public key which has been encrypted by the old private key. Also, it is possible to provide for cyber wallets containing the neces-

sary public key file and browser software to be downloaded by a merchant to a customer, rather than supplied by the "credit card" company directly to the customer, with the user adding the account and personal information necessary to effect a transaction, in which case the private key will still be held by the account servicer and the merchant will still have no access to any information in the authorization ticket which it forwards from the customer to the account servicer.

Having thus described a preferred embodiment of the invention in sufficient detail to enable those skilled in the art to make and use the invention, it should therefore nevertheless be appreciated that numerous modifications and variations of the basic "cyber wallet" concept, and it is intended that the invention encompass all such modifications and variations without limitation to the details of the preferred embodiments described above. To the contrary, it is intended that the above description not be taken as limiting, but rather that the invention be defined solely by the appended claims.

We claim:

1. An electronic payment system, comprising:

storage means for storing sensitive account information, at least one browser program, and a public key file, said at least one browser program constituting a means for enabling communications with at least one merchant over an open computer network, and said public key file including means for selecting the public key of a private-public key cryptosystem and for encrypting the sensitive information using the public key to generate an authorization ticket;

means possessed by a merchant in communication with the storage means for receiving said authorization ticket from the storage means and forwarding it to a secured account processor;

means in the account processor including a private key for decrypting the authorization ticket and informing the merchant whether a transaction is authorized.

2. A system as claimed in claim 1, wherein the storage means is in the form of a software program distributed by a credit card company or the merchant to a customer for use on the customers own modem-equipped computer.

3. A system as claimed in claim 1, wherein the storage means is provided on a smart card for use in kiosks equipped with smart card readers.

4. A system as claimed in claim 1, wherein the storage means further includes means including a private key encrypted digital signature for verifying whether said sensitive account information is authentic.

5. A system as claimed in claim 1, further comprising means for allowing access to the account information via a PIN mechanism, so that the storage means can be used in situations where encryption of the information is not necessary.

6. A system as claimed in claim 1, wherein the public key file includes a plurality of public keys retrievable based on identifiers associated therewith, one of the identifiers at a time being supplied to the merchant by the account servicer in order to enable the account servicer to control the selec-

tion of public keys without access by the merchant to the public keys themselves.

7. An electronic payment method, comprising the steps of: providing a customer with account information personal to the customer, at least one browser program for enabling communications with at least one merchant over an open computer network, and a public key file including means for selecting the public key of a private-public key cryptosystem;

upon establishment of communications between the customer and a merchant, generating an authorization ticket made up, at least in part, of said account information which has been encrypted by a selected public key from the public key file;

transmitting the authorization ticket to the merchant;

upon receipt of the authorization ticket by the merchant, adding information pertaining to an order and forwarding the information pertaining to the order and the authorization ticket to a secured account processor;

decrypting the authorization ticket using the private key of said public-private key cryptosystem so that the information contained therein can be used to verify whether the transaction is to be permitted.

8. A method as claimed in claim 7, wherein the step of providing the customer with personal account information, at least one browser program, and a public key file comprises the step of distributing a software program to a customer for use on the customers own modem-equipped computer, said step of distributing the software program being carded out by a credit card company or merchant.

9. A method as claimed in claim 7, wherein the step of providing the customer with personal account information, at least one browser program, and a public key file comprises the step of providing at least the personal account information and public key file on a smart card for use in kiosks equipped with smart card readers.

10. A method as claimed in claim 7, further comprising the step of providing the customer with a private key encrypted digital signature for verifying whether the personal account information is authentic.

11. A method as claimed in claim 7, wherein the public key file includes a plurality of public keys retrievable based on identifiers associated therewith, and further comprising the steps of having the account servicer supply the merchant with a key identifier and, during a transaction, having the merchant supply the key identifier to an electronic storage device on which said personal account information and public key file are stored in order to enable the account servicer to control the selection of public keys via the merchant without the merchant having access to the public keys themselves.

12. A method as claimed in claim 1, further comprising the step of allowing access to the account information via a PIN mechanism, so that the wallet can be used in situations where encryption of the information is not necessary.

* * * * *

PATENT
Express Mail Label No. EV016646596US
Attorney Docket No. 5822.03

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:)	
)	
John Klug)	Art Unit: 2171
)	
Serial No.: 09/884,779)	Examiner: M. Wang
)	
Filed: June 19, 2001)	
)	
FOR: A World Wide Web Registration)	
Information Processing System)	

RESPONSE TO OFFICE ACTION

Commissioner for Patents
Washington, D.C. 20231

Express Mailing label number: EV016646596US

Date of Deposit: 22 March 2002

I hereby certify that this paper or fee is being deposited with the United States Postal Service "Express Mail Post Office to Addressee" service under 37 CFR 1.10 on the date indicated above and is addressed to the Commissioner for Patents, Washington, D.C. 20231

Name: Kristi Murray

Signature: 

Dear Commissioner:

This Response is filed in reply to the Office action, paper no. 3, mailed October 23, 2001 (the "Action"), rejecting claims 1-11. Applicant respectfully requests reconsideration of all pending claims and the issuance of a Notice of Allowability in light of the below remarks and the Amendment to the specification.

In the Specification

Please amend the "Related Application" section of the specification, provided on page 1 of the present application, to read as follows:

Cross Reference to Related Applications

The present application is a continuation of United States Patent Application Serial Number 09/128,915 filed on August 4, 1998 which is a continuation of United States Patent Application Serial Number 08/595,837, filed on February 2, 1996 which claims priority to United States Provisional Application Serial Number 60/008,736 which was filed on December 11, 1995 all of which are entitled "World Wide Web Registration Information Processing System" and the contents of each of which are incorporated herein by reference in their entirety.

REMARKS

In the Action, the Examiner identified that the oath or declaration is defective because it fails to claim the priority dates for the benefit of the parent applications (identified above in the amended Cross Reference to Related Applications section). Applicant will provide a new declaration executed by the inventors.

Rejections under 35 U.S.C. §102(e)

The Examiner rejected claims 1 and 3-11 under §102(e) as being anticipated by U.S. Patent No. 5,590,197 issued to *Chen et al.* on December 31, 1996 (hereinafter, "Chen"). Applicant appreciates the Examiner's careful review of the application and the cited references. Applicant respectfully traverses these rejections and submits that all claims are patentable over Chen for the reasons set forth below.

Independent Claim 1

The Examiner alleged that Chen teaches all of the steps of independent claim 1. Applicant respectfully disagrees for the reasons set forth below. In finding each of the claim elements anticipated, the Examiner cited all of the Summary of the Invention, Brief Description of the Drawings and Detailed Description of the Preferred Embodiments (i.e., col. 3, line 33 to

column 7, line 9) as anticipating the claim elements. Applicant respectfully contends that none of the disclosure in Chen identifies any of the claim elements set forth in claim 1.

More specifically, Applicant asserts that Chen fails to disclose the steps of “first storing registration information related to the user in a first data store on a first node of a network”. Applicant contends that there is no section in Chen which specifically provides for storing user registration information at any node of a network or any other type of user information at any node of a network. In fact, the only mention of user related information in Chen is during the discussion of the processing of a transaction request by an account servicer. More specifically, Chen provides that the account servicer approves transactions based upon the “status of the customer’s account and the amount of the transaction.” (col. 4, lines 19-20) Chen does not state that the account servicer “stores” such information, nor does it state from where such information is obtained. Clearly, the status of a customer’s account and the amount of a transaction are not “registration information related to [a] user” as provided for in the present application.

Similarly, Chen does not provide for the “second storing said registration information in a second store on a second node of said network, said second node being different from said first node”, as required by independent claim 1 of the present application. Since Applicant contends that registration information is never “first stored” in Chen, then clearly it can not be “second stored”. Thus, Applicant respectfully submits that nowhere in the entirety of Chen is the concept of storing user demographic information ever discussed, mentioned or suggested. Additionally, Chen is specifically directed to a system and method for preventing the dissemination user registration information. Thus, Chen clearly teaches away from “second storing” user registration information at a second node, which would necessarily require the dissemination of the user registration information.

Further, Chen clearly does not “provid[e] the user with a user identification code permitting access to said registration information in at least one of said first and second stores”. The codes (i.e., the public keys) provided in Chen are utilized for the specific purpose of providing “what ever information is needed by the account servicer to authorize a transaction and, uniquely, a file containing a plurality of public keys.... these keys are used to protect the information on the card as it is being transmitted.” (col. 5, lines 40-48). Thus, the codes/public keys discussed in Chen are not provided in order to “permit access to registration information.”

Rather, they are provided in order to protect the limited amount of information necessary for an account servicer to approve a transaction. More specifically, the codes/private keys in Chen are used to prohibit access to information and are not provided to permit access to stored user registration information.

Chen is specifically directed to protecting the security of user account information. As such, Chen teaches away from the present invention in that the information provided to the merchant/third party web site is not user registration information. In contrast, the systems and methods of the present application are designed to expedite the controlled transmission of user registration information to such third party web sites. Thus, Chen is directed to securing information, while the present application is directed to systems and methods for disseminating user registration information automatically or upon receiving user approval.

Further, Chen does not provide for “supplying to at least one requested node of said plurality of requested nodes: (a) said user identification code for registering the user at said at least one requested node, and (b) said registration information transmitted from one of said first and second stores for registering the user at said at least one requested node.” In fact, Chen attempts to prevent the communication of user registration information to third parties. Further, the Examiner cited Fig. 1 of Chen in finding this element of claim 1 anticipated by Chen. Applicant respectfully contends that Fig. 1 does not in any manner support an interpretation that user registration information is being supplied to a merchant processor (or a “requested node”). Chen describes Fig. 1 as providing “a medium for the transfer of credit card account information.” (col. 4, lines 45-46) Further, Chen states, with reference to Fig. 1, that “the merchant will still have no access to any information in the authorization ticket which it forwards from the customer to the account servicer.” (col. 7, lines 6-8) Thus, it is clear that, in Chen, third party web sites/merchant processors/“requested nodes” are not provided with “user registration information”. In fact, Chen is specifically configured to prevent the dissemination of such user registration information to third parties.

In essence, Chen attempts to limit the dissemination of user demographic information to third parties. In contrast, the present application provides a system and method for efficiently disseminating user demographic information in a controlled manner. Thus, Chen and the present application are entirely unrelated in the problems they attempt to solve and the systems and methods used to solve such problems.

For all the foregoing reasons, Applicant respectfully submits that Chen does not anticipate independent claim 1. Accordingly, Applicant respectfully requests that the Examiner withdraw her rejection and allow claim 1 as patentable over the cited reference.

Dependent Claims 2-9

Applicant respectfully submits that he has shown that claims 2-9 all depend from a patentably distinct independent claim. Accordingly, claims 2-9 are themselves patentable. Therefore, Applicant respectfully requests that the Examiner withdraw her rejections and allow these claims. Applicant makes this request without reference to any other bases of patentability contained within the dependent claims, and such request should not be read as an admission that patentable subject matter is lacking in any dependent claim.

Independent Claims 10 and 11

Applicant respectfully contends, based upon the arguments set forth above with respect to independent claim 1, that claims 10 and 11 are also patentably distinct over Chen and all of the prior art of record. Applicant's attorney respectfully requests the Examiner to contact him via telephone should the Examiner fail to appreciate the applicability of the preceding arguments with respect to independent claims 10 and 11. In essence, Chen teaches a system for preventing and protecting the distribution of account information whereas the present application provides systems and methods for distributing user registration information.

Rejections under 35 U.S.C. §103

The Examiner also raised concerns with the ownership of the inventions covered by the various claims in the present application. Applicant states that, since inception, the inventors of the concepts disclosed in the present application have been under an obligation to assign such inventions to Customer Communications Group and that such Assignment was recorded on February 7, 1996 with the United States Patent and Trademark Office.

Further, the Examiner also rejected claim 2 under §103(a) as obvious in view of Chen, further in view of U.S. Patent No. 5,813,009 issued to Johnson et al. on July 28, 1995 (hereinafter, "Johnson"). Applicant appreciates the Examiner's review of the cited references.

The Examiner states that Chen teaches all of the elements of claim 2 except for the order in which the information is stored. The Examiner relies upon Johnson to teach the storing of the registration information on the client side first and then on the server side. Applicant respectfully traverses this rejection and relies upon the arguments discussing Chen submitted above with respect to independent claim 1.

Further, assuming for point of discussion only that Chen covered all of the elements of claim 1, interpreting Chen in light of Johnson appears to be logically inconsistent. Chen provides that an electronic wallet is provided to a user for effecting electronic transactions. Clearly, the user information can not first be stored by the user on the electronic wallet because the user does not possess the electronic wallet until it is provided by the issuer (i.e., the credit company). The issuer can not generate an electronic wallet until they have sufficient information to associate the electronic wallet with an user account (such information generally requires an account number, an account name and an expiration date for the account). Thus, it is illogical (and therefore arguably non-obvious) to combine Chen and Johnson because Chen teaches a contrary position to that taught in Johnson. In Chen, account information along with a public key has to first be provided to the issuer and encoded into the electronic wallet before the electronic wallet can be issued. Providing an electronic wallet and then storing user account information with an issuer (as allegedly taught by Johnson or as is suggested by the Examiner as being obvious to one of ordinary skill in the art) would result in the very occurrence which Chen is trying to avoid – namely, the communication of user information with an electronic wallet identification.

Further, the Examiner cited col. 23, lines 55-65 as supporting the proposition that Johnson teaches the storage of user information on the client side first and then on the server side. This cited passage essentially provides that upon insertion of a smart card, a user can download information from an archival facility provided the smart card has the proper authorizations. The Johnson specification further provides that if the request is valid, the archival authority (not the user or the user's card) then provides the requested records/information to the requestor. Thus, Johnson does not support the Examiners argument that information (let alone "user registration information") is first stored on the client side and then provided to the server side. In Johnson, the archival facility provides archived records of "paper records, or microfilm or fiche" (col. 24, lines 28-29) which arguably do not exist on the

user's node. In short, Chen does not disclose the elements of claim 2, as discussed previously, and Johnson does not provide for storing information first on a client node and then on a server node. As such, to the extent that the Examiner is relying on common knowledge in the art or is attempting to take official notice of facts outside the record, please consider this a request under MPEP § 2144.03 that the Examiner provide a reference supporting this position. Applicant respectfully contends that there is no teaching in Chen or Johnson to combine such references and thus a prima facie case of obviousness does not exist.

Therefore, Applicant respectfully requests that the Examiner withdraw her rejection of claim 2 and allow this claim as patentable over the cited references.

Double Patenting Rejection under 35 U.S.C. 101

The Examiner also rejected claims 1-11 under 35 U.S.C. 101 as claiming the same invention as that of claim 1-11 of prior U.S. Patent No. 5,790,785 (hereinafter, the "'785 patent"). Applicant respectfully traverses this rejection. Applicant notes that under *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970), as stated in the MPEP §804(II)(A)(second paragraph) that "a reliable test for double patenting under 35 U.S.C. 101 is whether a claim in the application could be literally infringed without literally infringing a corresponding claim in the patent." Applicant contends that claims 1-11 in the present application are broader than the claims in the '785 patent.

More specifically, Applicant directs the Examiner's attention to the language "said registration information including demographic information regarding the user that is useful by web site operator in monitoring web site usage". This language is present in each of independent claims 1, 10, and 11 of the '785 patent, but is not present in claims 1, 10 and 11 of the present application. Basically, the independent claims in the present application may, but do not have to include demographic information that is "useful by web site operators". As such, claims 1, 10 and 11 of the present application are arguably broader than the corresponding claims in the '785 patent. It is conceivable that a user may provide demographic information that is not "useful by web site operators in monitoring web site usage." Examples of such information might include a user's telephone number. Arguably, a user's telephone number probably is not "useful by web site operators in monitoring web site usage" but such information is useful for other purposes (for example, telemarketing – which is totally unrelated to "monitoring web site usage").

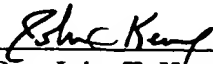
In short, independent claims 1, 10 and 11 of the present application are arguably broader than the corresponding claims in the '785 patent. Since such claims are broader, they may be literally infringed even though the claims in the '785 patent are not literally infringed. Therefore, in light of *In re Vogel*, Applicant respectfully contends that all of the claims are patentably distinct from the claims set forth in the '785 patent. Applicant respectfully requests the Examiner rescind the double patenting rejection and allow all of the claims in the present application.

CONCLUSION

The Applicant thanks Examiner Wang for her careful review of the pending application. Applicant respectfully states that he has fully and completely responded to all bases of rejection alleged by the Examiner in the Action. Applicant submits that the present application overcomes all objections and is in a form fit for allowance. Therefore, in view of the above, Applicant respectfully requests allowance all pending claims. Should there be any remaining informalities or questions which may be resolved via telephone, the Examiner is invited to contact Applicant's attorney, John T. Kennedy, at (303) 260-6362.

Dated: 22 March 2002

Respectfully submitted,
Dorsey & Whitney L.L.P.


By: John T. Kennedy
Attorney for Applicant
USPTO Reg. No. 42,717



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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/884,779	06/19/2001	John R. Klug	5822.03	3337

20686 7590 11/13/2002

DORSEY & WHITNEY, LLP
INTELLECTUAL PROPERTY DEPARTMENT
370 SEVENTEENTH STREET
SUITE 4700
DENVER, CO 80202-5647

EXAMINER

WANG, MARY DA ZHI

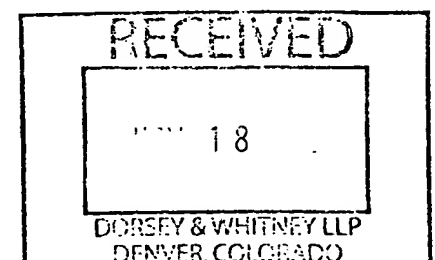
ART UNIT PAPER NUMBER

3621

DATE MAILED: 11/13/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Docket No.	5822-03
Docketed	11/18/25
Due Date	1/13/35
Tasked	



FORM PTO-1449 U.S. DEPARTMENT OF COMMERCE
(Modified) PATENT AND TRADEMARK OFFICE

ATTY. DOCKET NO.
5822.03

SERIAL NO.
09/884,779

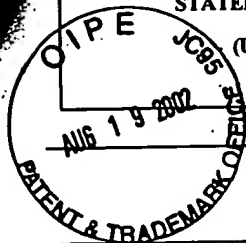
INFORMATION DISCLOSURE
STATEMENT BY APPLICANT

(Use several sheets if necessary)

APPLICANT:
John R. Klug et al.

FILING DATE
June 19, 2001

GROUP
2171



U.S. PATENT DOCUMENTS

EXAMINER INITIAL	PATENT NUMBER	ISSUE DATE	PATENTEE	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
mw	5,263,158	16 Nov 93	Janis	395	600	
mw	5,455,953	03 Oct 95	Russell	395	739	
mw	5,469,576	21 Nov 95	Dauerer et al.	395	186	
mw	5,506,961	09 Apr 96	Carlson et al.	395	186	
mw	5,544,322	06 Aug 96	Cheng et al.	395	200.12	
mw	5,586,260	17 Dec 96	Hu	395	200.2	
mw	5,604,490	18 Feb 97	Blakely, III et al.	340	825.31	
mw	5,611,048	11 Mar 97	Jacobs et al.	395	200.09	
mw	5,619,574	08 Apr 97	Johnson et al.	380	25	
mw	5,642,515	24 Jun 97	Jones et al.	395	727	
mw	5,671,354	23 Sep 97	Ito et al.	395	187.01	
mw	5,678,041	14 Oct 97	Baker et al.	395	609	
mw	5,682,428	28 Oct 97	Johnson	380	23	AUG 23 2002
mw	5,682,478	28 Oct 97	Watson et al.	395	200.12	
mw	5,689,638	18 Nov 97	Sadovsky	395	188.01	
mw	5,692,049	25 Nov 97	Johnson	380	25	
mw	5,694,595	02 Dec 97	Jacobs et al.	395	609	
mw	5,708,780	13 Jan 98	Levergood et al.	395	200.12	
mw	5,757,920	26 May 98	Misra et al.	380	25	
mw	5,768,504	16 Jun 98	Kells et al.	395	187.01	
mw	5,774,551	30 Jun 98	Wu et al.	380	25	

FOREIGN PATENT OR PUBLISHED FOREIGN PATENT APPLICATION

		DOCUMENT NUMBER	PUBLISHED DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION	
							YES	NO

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

mw	"C&WC Lays Out Interactive TV Plans," Computer Program International, CGN08200041, ComputerWire Inc., (August 20, 1998).
mw	"NCR: NCR & Quadstone Help Banks Improve Service and Reduce Risk by Better Predicting Customer Behaviour," M2 Presswire, M2 Communications, Ltd., (July 6, 1998).
EXAMINER	DATE CONSIDERED
<i>M. J. [Signature]</i>	11-8-02

FORM PTO-1449 U.S. DEPARTMENT OF COMMERCE (Modified) PATENT AND TRADEMARK OFFICE INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use several sheets if necessary)	ATTY. DOCKET NO.	SERIAL NO.
	5822US.03	09/884,779
	APPLICANT: John R. Klug et al.	
	FILING DATE	GROUP
	June 19, 2001	2171

U.S. PATENT DOCUMENTS

[illegible]

FOREIGN PATENT OR PUBLISHED FOREIGN PATENT APPLICATION

[illegible]

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

OTHER DOCUMENTS (including _____)

EXAMINER	<i>Mary Wang</i>	DATE CONSIDERED	11-8-02
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EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Office Action Summary

Application No.

09/884,779

Applicant(s)

KLUG ET AL.

Examiner

Mary Wang

Art Unit

3621

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 August 2002.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 12.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

2. Claims 1 and 3-11 are rejected under 35 U.S.C. 102(e) as being anticipated by Chen et al., U. S. Patent 5,590,197.

As to claim 1, Chen teaches a method for registering a user at a plurality of user requested nodes of a communications network wherein nodes of the network are identified using an Internet address scheme, comprising (Fig. 1):

- a) First storing registration information related to the user in a first data store on a first node of said network (column 3 line 33 – column 7 line 9);
- b) Second storing of said registration information in a second store on a second node of said network, said second node being different from said first node (column 3 line 33 – column 7 line 9);
- c) Providing the user with a user identification code permitting access to said registration information in at least one of said first and second stores (column 3 line 33 – column 7 line 9);
- d) Supplying to at least one requested node of said plurality of requested node (column 3 line 33 – column 7 line 9);

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- i. Said user identification code for registering the user at said at least one requested node, and
- ii. Said registration information transmitted from one of said first and second stores for registering the user at said at least one requested node.

As to claim 3, Chen teaches said communications network utilizes an internet protocol (column 3 line 33 – column 7 line 9 and Fig. 1).

As to claim 4, Chen teaches providing a modification to said registration material on one of said first and second stores to the other of said first and second stores (column 3 line 33 – column 7 line 9).

As to claim 5, Chen teaches retaining said modification in said first and second stores, wherein said modification is transmitted to said at least one requested node in said step of supplying from one of said first and second stores (column 3 line 33 – column 7 line 9).

As to claim 6, Chen teaches said first step of storing includes inputting said registration information by the user (column 3 line 33 – column 7 line 9).

As to claim 7, Chen teaches said second step of storing includes transmitting said registration information from said first node to said second node using said communication network.

As to claim 8, Chen teaches inputting user identification from said first node; transmitting said user identification to said node; and using said user identification at second node for determining said user identification code (column 3 line 33 – column 7 line 9).

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As to claim 9, Chen teaches requesting by said at least one requested node, said registration information from said second node (column 3 line 33 – column 7 line 9).

Claims 10-11 are rejected for the similar reason as claim 1, which was discussed above.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chen et al., U. S. Patent 5,590,197 in view of Johnson et al., U. S. Patent 5,813,009.

As to claim 2, Chen teaches said first node is a server node and said second node is a client node (column 3 line 33 – column 7 line 9).

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The difference between the present application and the teach of Chen is following:

Chen teaches storing the registration information on the server first, and then storing the registration information on the user side. The present application claims the registration information is stored on the client side first, and then the server side.

Johnson teaches storing registration information on the client side first, and then the server side (column 23 line 55-65).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to allow Chen's registration information to be stored in on the user said first and one the server side thereafter because it will be efficient to process the updated registration information.

Double Patenting

6. A rejection based on double patenting of the "same invention" type finds its support in the language of 35 U.S.C. 101 which states that "whoever invents or discovers any new and useful process ... may obtain a patent therefor ..." (Emphasis added). Thus, the term "same invention," in this context, means an invention drawn to identical subject matter. See *Miller v. Eagle Mfg. Co.*, 151 U.S. 186 (1894); *In re Ockert*, 245 F.2d 467, 114 USPQ 330 (CCPA 1957); and *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970).

A statutory type (35 U.S.C. 101) double patenting rejection can be overcome by canceling or amending the conflicting claims so they are no longer coextensive in scope. The filing of a terminal disclaimer cannot overcome a double patenting rejection based upon 35 U.S.C. 101.

7. Claims 1-11 are rejected under 35 U.S.C. 101 as claiming the same invention as that of claims 1-11 of prior U.S. Patent No. 5,790,785. This is a double patenting rejection.

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8. Claims 1-11 are rejected under 35 U.S.C. 101 as claiming the same invention as that of claims 1-11 of prior application No. 08/128,915. This is a double patenting rejection.

Response to Arguments

9. Applicant's arguments filed 4/26/2002 have been fully considered but they are not persuasive.

Applicant argues that Chen (U. S. Patent 5,590,197) does not teach "first storing registration information related to the user in a first data store on a first node of said network" and "second storing of said registration information in a second store on a second node of said network, said second node being different from said first node". It is believed that Chen teaches these limitations. The personal information taught by Chen (column 4 lines 63-66) corresponds to the registration information as claimed in the present application. This personal information stored at two different nodes – the user side and the server side (column 4 lines 46-54, 64 – column 5 line 5).

In response to applicant's argument that Chen does not teach "providing the user with a user identification code permitting access to said registration information in at least one of said first and second stores" and "supplying to at least one requested node of said plurality of requested node", using PIN number for access the information in the wallet taught by Chen (column 5 lines 6-8) corresponds to these limitations.

All other applicant's arguments regarding the rejections under 35 U.S.C. §102 and 35 U.S.C. §103 are based on the arguments discussed above. Examiner maintains the original rejections.

Regarding the Double Patenting rejection, it is believed that U. S. Patent 5,790,785 comprising the same invention as the present application. Thus, examiner maintains the original rejections.

Conclusion

10. This is a Request for Continued Examination of applicant's earlier Application No. 09/884,779. All claims are drawn to the same invention claimed in the earlier application and could have been finally rejected on the grounds and art of record in the next Office action if they had been entered in the earlier application. Accordingly, **THIS ACTION IS MADE FINAL** even though it is a first action in this case. See MPEP § 706.07(b). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no, however, event will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

***Inquire
Inquire***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mary Wang whose telephone number is (703)-305-0084. The examiner can normally be reached on Monday – Thursday from 8:00 AM to 5:30 PM. The examiner can also be reached on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Trammell, can be reached on (703) 305-9768.

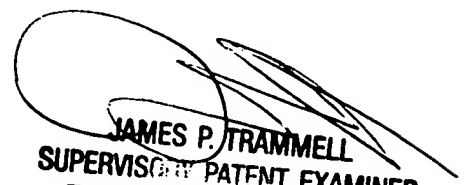
Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1113.

The fax phone number for the organization where this application or proceedings is assigned are as follows:

(703) 305-7687 (Official Communications; including After Final
Communications labeled "BOX AF")
(703) 746-5619 (Draft Communications)

Hand delivered responses should be brought to Crystal Park 5, 2451 Crystal Drive, 7th Floor Receptionist.

Mary Wang
Patent Examiner
Art Unit 3621
November 8, 2002


JAMES P. TRAMMELL
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3600

The below text replaces the pre-printed text under the heading, "Information on How to Effect Drawing Changes," on the back of the PTO-948 (Rev. 03/01, or earlier) form.

INFORMATION ON HOW TO EFFECT DRAWING CHANGES

1. Correction of Informalities -- 37 CFR 1.85

New corrected drawings must be filed with the changes incorporated therein. Identifying indicia, if provided, should include the title of the invention, inventor's name, and application number, or docket number (if any) if an application number has not been assigned to the application. If this information is provided, it must be placed on the front of each sheet and centered within the top margin. If corrected drawings are required in a Notice of Allowability (PTOL-37), the new drawings **MUST** be filed within the **THREE MONTH** shortened statutory period set for reply in the Notice of Allowability. Extensions of time may **NOT** be obtained under the provisions of 37 CFR 1.136(a) or (b) for filing the corrected drawings after the mailing of a Notice of Allowability. The drawings should be filed as a separate paper with a transmittal letter addressed to the Official Draftsperson.

2. Corrections other than Informalities Noted by Draftsperson on form PTO-948.

All changes to the drawings, other than informalities noted by the Draftsperson, **MUST** be made in the same manner as above except that, normally, a highlighted (preferably red ink) sketch of the changes to be incorporated into the new drawings **MUST** be approved by the examiner before the application will be allowed. No changes will be permitted to be made, other than correction of informalities, unless the examiner has approved the proposed changes.

Timing of Corrections

Applicant is required to submit the drawing corrections within the time period set in the attached Office communication. See 37 CFR 1.85(a).

Failure to take corrective action within the set period will result in **ABANDONMENT** of the application.

Supreme Court of the United States.

MILLER et al.
v.
EAGLE MANUF'G CO.

No. 143.

January 8, 1894.

Appeal from the circuit court of the United States for the southern district of Iowa.

In equity. Bill by the Eagle Manufacturing Company against W. L. Miller and L. W. Miller for infringement of certain patents. There was a decree for complainant in the court below. 41 Fed. 351. Defendants appeal. Reversed.

West Headnotes

Patents ⚙ 120
291k120

An inventor who takes out a patent covering specifically his entire invention cannot even by inserting a reservation, obtain a subsequent valid patent covering more broadly a particular feature of the same invention.

Patents ⚙ 120
291k120

An inventor cannot have two valid patents for the same invention when the only distinction is that the later one has a broader and more generic claim for matters included in specific form in the prior patent.

***311 *187** John T. Morgan H. A. Toulmin, and L. L. Bond, for appellants.

Geo. H. Christy, for appellee.

Mr. Justice JACKSON delivered the opinion of the court.

The appellee, as assignee of letters patent No. 222,767, dated December 16, 1879, and No. 242,497, dated June 7, 1881, issued to Edgar A. Wright, for certain new and useful improvements in wheeled cultivators, brought this suit against the appellants, who were the defendants in the court below, for the alleged infringement thereof.

The defenses made in that court were that Wright was not the first and original inventor of the improvements described in the patents; that the same were shown and described in previous devices and letters patent, set forth in the answer; that the invention shown in each of the patents in suit is identical; that in each the supposed improvements relate to a spring and its attachments; that the function and operation of the parts are exactly the same in each; that one or both of the letters patent in controversy were issued without authority of law, and therefore void; that, in view of the state of the art at the date of the alleged improvements of Wright, the letters patent granted to him did not exhibit any patentable invention, and for that reason are invalid; that the defendants were not engaged in the manufacture of cultivators, but have ***188** sold cultivators manufactured by P. P. Mast & Co., of Springfield, Ohio, constructed under and in accordance with various letters patent owned by that company; that they sold the cultivators of this company without notice or reason to suppose that they were an infringement of the patents of Wright, and that they do not, in fact, infringe the same.

The class of cultivators to which the Wright patents in question relate are of the ordinary character of wheeled, straddle-row cultivators, having vertical swinging beams, or drag bars, to carry the shovels or plows, suspended from an arch or frame, mounted on two wheels, a tongue fastened to the frame and beams connected with the horizontal portions of the arch, which serves as an axle for the wheels, and surrounding the axle on each side, a pipe box, to which the beam is secured, the pipe box revolving on the axle, and the beam carrying the shovels adjusted so as to swing up or down with the pipe box, according to the direction in which it is turned.

The patented device consists of a round steel rod or wire spring, having at its fixed end a coil attached to the swinging beam or plow bars, and, extending from the coil, a slightly curved arm, the outer end of which terminates in a bend or shoulder, from which the rod continues to form a short arm, terminating in a sharp bend or curl at the free end of the spring. This spring is so adjusted that the outer or free end thereof bears against the under side of an adjustable grooved roller, fixed upon an outwardly extending arm upon the upright portion of the axle. This spring, with its adjustment, is intended to have a duplex action,

(Cite as: 151 U.S. 186, *188, 14 S.Ct. 310, **311)

covering the double effect of either raising or depressing the beams carrying the shovels. The curvature of the spring is such that, as it moves along the groove of the roller, it presses against the latter at different points of its periphery, and thereby the direction of its action is shifted or changed as the position of the swinging beam is changed. Such changes in the direction of its action will assist in drawing or pulling the beam upwards in a vertical direction, giving it increased leverage as the spring is moved forward in its bearings on the roller.

In his original application, filed May 23, 1879, Wright fully *189 described his improved device for use in connection with cultivators, and claimed for it, not only its lifting and depressing action, but also its lifting power, which increased as the beams were raised.

An interference with other pending applications being anticipated as to the broad claims of the invention, the application was divided, on November 12, 1879, for the purpose of obtaining one patent for the lifting and depressing effect of the spring on the beams, and another for the lifting power of the spring, increasing as the beams rise; the latter being sought upon the original application, while the former was based upon the divisional application of November 12, 1879. Patent No. 222,767, for the double effect or duplex action of the improved spring, was granted on December 16, 1879; and thereafter, on June 7, 1881, patent No. 242,497, for the single effect of increased lifting force in raising the plow beams, was granted, after interference had been disposed of.

The court below sustained the validity of both patents, and held that the defendants infringed the 1st, 2d, 3d, 4th, and 6th claims of patent No. 222,767, and the 1st, 2d, 3d, and 4th claims of the patent granted June 7, 1881, (No. 242,497.) The complainant waiving an accounting for profits and damages, a final decree was entered, enjoining the defendants from making, using, or selling to others to be used, cultivators constructed and operated in the manner and upon the principle described in the letters patent in controversy. From this decree the present appeal is prosecuted.

The appellants assign numerous errors, which need not be separately noticed and considered, as they are embraced in the general proposition that the court erred in holding that the patents sued on were valid, and that the cultivators sold by the defendants infringed the same.

In the specification forming part of the letters patent 222,767, issued December 16, 1879, under the divided application filed November 12, 1879, the patentee states:

'The object of my invention is to give the **312 operator mechanical assistance in raising and lowering the plows without interfering with their usual action and movement, to prevent the *190 plows from rising out of the ground accidentally, and to limit their descent; and to this end the invention consists in a spring which serves the double purpose of lifting or holding down the plows at will as may be required; in so constructing and applying a spring that it exerts a lifting action on the plow, only when the latter is raised above its usual operative position; in so constructing and applying a spring that it limits the descent of the plow; also, in details of minor importance, hereinafter described.

'In carrying out my invention, the one spring may be adapted to serve all or either one or more of the offices above enumerated, and may be modified in its form, construction, and arrangement, as desired, provided its mode of action is retained.'

It further stated that the improved springs may be attached to either the plows, as shown in Figs. 1 and 2, or to the axle, as shown in Fig. 3.

The improvements are described in the specification as follows:

'As shown in Figs. 2 and 3, each spring consists of a round steel rod or wire having at the fixed end a coil, a, and extending from the coil a long slightly- curved arm, b, the outer end of which terminates in a sharp bend or shoulder, c, from which the rod continues to form a short arm, d, the end of which has a sharp bend or curl, e, as represented in Figs. 2 and 3.

'When the spring is to be applied to the plow beam, as shown in Figs. 1 and 2, I first provide the upright portion of the axle with an outwardly extending arm or rod, E, carrying a laterally adjustable grooved roller, F, to serve as a bearing for the free end of the spring. The coiled end of the spring is then seated in a metal bearing plate, G, which is secured rigidly but adjustably to the beam by means of a bolt, H, as shown, the free end of the spring being at the same time seated against the under side of the roller, and the parts so adjusted that when the beam is in its lowermost position the extreme end, e, of the spring,

(Cite as: 151 U.S. 186, *190, 14 S.Ct. 310, **312)

will bear against the front of the roller, and the spring be under a strong tension.

'When the beam and its shovels are down in an operative position, so that the shovels enter the ground, the portion, d, *192 of the spring **313 bears beneath the roller, as shown in Fig. 1, and serves to hold the beam down, so as to keep the shovels in the ground, but at the same time allows them a limited vertical movement when required.

Image 1 (5.25 X 5.25) Available for Offline Print

'Whenever the shovels enter to the full depth desired, the end, e, of the spring, encounters the roller, and serves to check the descent and to suspend the beams.

'When the beam is raised, the spring continues to urge or hold them down until the bend or angle, e, of the spring, passes the roller, whereupon the spring instantly changes its action, and tends to lift the beam.'

The specification then proceeds to state:

'I am aware that cultivator plows have been heretofore suspended when in action by springs which exerted little or no lifting force when the shovels were lifted above the ground, and which exerted an increasing lifting force as the shovels descended.

'I am also aware that springs actuated by manual devices, and not automatic, have been employed to force cultivator shovels into the ground.

'I am not aware, however, that any one has hitherto applied a spring in such a manner that it served both to elevate and hold down the beam or shovels, nor that any one has suspended the beams by a spring which would lift the whole or the greatest part of the weight to the highest point required, and still permit an easy motion of the shovels in the ground, with little or no tendency to rise therefrom; neither am I aware that any one has ever caused a lifting or depressing spring, which permitted a movement of the beam and shovels, to limit their descent.

'I therefore claim to be the inventor of each and all of said features, broadly considered; and it is obvious that they may be changed, modified, or altered in the form of embodiment as desired, it being obvious to the skilled mechanic that there are many equivalent ways of securing the same end without departing from

the limits of my invention.

'I do not claim in the present patent the broad idea of a lifting spring which acts with increasing force as the beam *193 rises, as I have made the same the subject of a separate application bearing date prior hereto; but---

'Having described my invention, what I do claim is:

'(1) In combination with a vertically swinging beam or drag bar, a spring, substantially as described and shown, arranged to urge the beam downward when in action, and urge it upward when it is lifted above the operative position.

'(2) In combination with a vertically swinging beam or drag bar, a double-acting automatic spring, substantially as described, serving the double purpose of holding the beam down to its work, and of assisting to lift it when it is thrown out of action.

'(3) In combination with a vertically swinging beam or drag bar, a spring, substantially as shown, adapted to exert an automatic spring action upward or downward upon the beam, according to the position of the latter.

'(4) In a cultivator, the combination of a frame, a vertically swinging beam or drag bar attached thereto, and an automatic spring, substantially as described, connected with one of said members, and arranged to urge the beam downward while the latter is in an operative position, but not when it is raised above said position. * * *

'(6) In a cultivator, the combination of a main frame, a vertically moving beam or drag bar connected therewith, and a spring, substantially as described, interposed between said parts, and acting vertically upon the beam; said spring being constructed and arranged to pass a center or dead point as the beam moves vertically, and, in passing said point, cease or change the direction of its action on the beam.'

The second patent, No. 242,497, issued June 7, 1881, while describing in both the specification and the drawings the same invention or device covered by the patent of December 16, 1879, attempts to limit the invention and patent to the lifting operation of the springs, increasing as the beams are raised. The specification, forming a part of this patent, states that---

(Cite as: 151 U.S. 186, *193, 14 S.Ct. 310, **313)

'The invention relates to that class of machines, generally wheeled, which have vertically swinging beams or drag bars *194 to carry the shovels or plow points; and the object of the invention is to render the operations of the machine easier and less laborious to the attendants by applying springs thereto in such manner that they will assist the operator in raising the beams and shovels attached thereto from their operative to their inoperative positions; and this, without having the springs exert any objectionable lifting strain upon the beams when the latter are in action.

'To this end, the invention consists in applying lifting springs in such manner that they exert upon the beams a maximum power or strain when the latter are above an operative position.

'The spring, operating in accordance with my improved plan, may be made and applied in various forms, which will readily suggest themselves to the skilled mechanic, without departing from the limits of my invention.

'My springs may be arranged to sustain the whole or any desired portion of the weight of the beams when the latter are raised, and they may be arranged to exert a slight lifting strain when the beams are in action, or, if preferred, arranged to cease their lifting strain entirely at such time.

'The essential feature of my invention consists in applying a lifting spring or springs in such manner that they do not increase their lifting strain as the beam is depressed, the construction preferred being such **314 that the springs exert an increased lifting action as the beams rise from an operative to an inoperative position.

'I am aware that springs have been applied in various ways to assist in lifting the beams in this class of machines; but in all cases their arrangement was such that they acted with an increased lifting strain as the beams were lowered, the consequence of which arrangement was that the springs exerted their greatest upward strain when the shovels were in the ground, at a time when it was desirable that the shovel should not be lifted, and, on the other hand, exerted but little force when the beams were elevated, and when it was required that they should be sustained to relieve the operator. This old action, it will be seen, is the reverse of that which is *195 desired, and the principal object of my invention is to reverse the old mode of action, and have the springs

act with little or no upward strain when the shovels are in the ground, but with strong upward pressure when the beams are lifted.

'The accompanying drawings illustrate one manner of embodying my invention. The springs represented in the drawings are adapted to serve the double purpose of holding the beams down, and of lifting them, or assisting to lift them, when they are raised above an operative position. No claim is made in the present case to this duplex action of the springs, nor to the peculiar form or arrangement of the springs, otherwise than as regards the feature of exerting an increasing or a maximum strain on the beams as the latter rise; the peculiar construction of the spring being already covered in a patent hitherto granted to me.'

After describing the drawings and the operation of the spring, the specification proceeds as follows:

'While it is believed that the form of spring represented in the drawings is preferable to all others, the invention included, as before stated, any spring so combined with the beam or its equivalent that a greater or stronger lifting force or effect is exerted upon the beam when the latter is above the operative position than when it is in use; or, in other words, the invention includes any and all beam-lifting springs, the effect of which is lessened or avoided when the beam descends to an operative position.

'I believe myself to be the first to apply a spring in such manner as to secure the above mode of action, and the first to so apply a spring in such manner that as it loses tension it acts with an increasing force or effect to lift the beam, or, in other words, with an effect which is not lessened by the decrease in the tension of the spring within the usual limits of operation.

'Among other arrangements which may be substituted for that shown is that of having a radius bar or link introduced between the spring and beam as a substitute for the curved spring and roller.'

Having thus described his invention, the patentee claimed:

*196 '(1) In a cultivator, the combination of a vertically swinging drag bar or beam and a lifting spring, which acts with increasing force or effect on the beam as the latter rises, and vice versa.

(Cite as: 151 U.S. 186, *196, 14 S.Ct. 310, **314)

'(2) In a wheeled cultivator, the combination of a vertically moving beam and a lifting spring, substantially as described, whereby an increasing upward strain is communicated to the beam as the latter rises.

'(3) The combination of a wheeled frame, a vertically moving beam or drag bar attached thereto, and a lifting spring, substantially as described, which exerts a greater strain or effect upon the beam when the latter is elevated than when it is depressed.

'(4) The combination of a vertically moving beam, a lifting spring, and a shifting or changing bearing or fulcrum, whereby the lifting action or effect of the spring upon the beam is increased as the beam is elevated, substantially as described and shown.'

It is not deemed necessary to make a separate analysis of the respective claims alleged to be infringed.

The novelty of Wright's invention consists, as held by the court below, in the application of a double-acting spring to assist the operator in either lifting the plow beams, or the plows attached thereto, or in sinking them deeper in the earth, as occasion might require, while the cultivator is in service. The first patent, issued in 1879, covered both the lifting and depressing actions or operations, while the second patent covered only the lifting effect. The spring device which was designed to accomplish these effects or operations, is the same in both patents. The drawings in each of the patents are identical, and the specification in each is substantially the same. Under these circumstances can it be held that the second patent has any validity, or must it be treated as having been anticipated by the grant of the 1879 patent? If, upon a proper construction of the two patents,--which presents a question of law to be determined by the court, (*Heald v. Rice*, 104 U. S. 749,) and which does not seem to have been passed upon and decided by the court below,--they should be *197 considered as covering the same invention, then the later must be declared void, under the well-settled rule that two valid patents for the same invention cannot be granted either to the same or to a different party.

Thus, in *Manufacturing Co. v. Hayden*, 3 Wall. 315, it was held that where two patents, showing the same invention or device, were issued to the same party, the later one was void, although the application for it was first filed; thereby deciding that it is the issue date, and not the filing date, which determines

priority to patents issued to the same inventor on the same machine.

**315 In *James v. Campbell*, 104 U. S. 382, the court say: 'It is hardly necessary to remark that a patentee could not include in a subsequent patent any invention embraced or described in a prior one, granted to himself, any more than he could an invention embraced or described in a prior patent granted to a third person; indeed, not so well, because he might get a patent for an invention before patented to a third person in this country, if he could show that he was the first and original inventor, and if he should have an interference declared. * * * If he was the author of any other invention than that which the specification describes and claims, though he might have asked to have it patented at the same time, and in the same patent, yet if he has not done so, and afterwards desires to secure it, he is bound to make a new and distinct specification for that purpose, and make it the subject of a new and different patent.' When a patentee anticipates himself, he cannot, in the nature of things, give validity to the second patent.

In *Lock Co. v. Mosler*, 127 U. S. 355, 8 Sup. Ct. 1148, it was held that, a patent having issued for a product as made by a certain process, a later patent could not be granted for the process which results in the product.

In *McCreary v. Canal Co.*, 141 U. S. 467, 12 Sup. Ct. 40, it was held that where a party owned two patents, showing substantially the same improvement, the second was void; the court saying: 'It is true that the combination of the earlier patent in this case is substantially contained in the later. If *198 it be identical with it, or only a colorable variation from it, the second patent would be void, as a patentee cannot take two patents for the same invention.'

In *Underwood v. Gerber*, 149 U. S. 224, 13 Sup. Ct. 854, it was ruled that where a patentee obtained two patents on the same day, upon applications filed on the same day, they could not be treated as one patent with two claims, and that the complainant, in suing upon the second, or the one having the latest number, could not use the first, or the one with the earlier number, to help sustain the action.

In *Odiorne v. Nail Factory*, 2 Mason, 28, the reason for the rule since established by the above-cited cases was stated to be that the power to create a monopoly is exhausted by the first patent, and for the further reason that a new and later patent for the same

(Cite as: 151 U.S. 186, *198, 14 S.Ct. 310, **315)

invention would operate to extend or prolong the monopoly beyond the period allowed by law.

The result of the foregoing and other authorities is that no patent can issue for an invention actually covered by a former patent, especially to the same patentee, although the terms of the claims may differ; that the second patent, although containing a broader claim, more generic in its character, than the specific claims, contained in the prior patent, is also void; but that where the second patent covers matter described in the prior patent, essentially distinct and separable from the invention covered thereby, and claims made thereunder, its validity may be sustained.

In the last class of cases it must distinctly appear that the invention covered by the later patent was a separate invention, distinctly different and independent from that covered by the first patent; in other words, it must be something substantially different from that comprehended in the first patent. It must consist in something more than a mere distinction of the breadth or scope of the claims of each patent. If the case comes within the first or second of the above classes, the second patent is absolutely void.

It is insisted on the part of the appellee that 'whether this invention shall be protected in part of its features by one *199 patent, and as to the rest by another, or shall be completely protected by a single patent, is a matter which concerns solely the patent office and the inventor.' Under the rule announced in the foregoing authorities, this proposition cannot be sustained.

The second and principal contention of the appellee is that the patent of 1881 covers a distinct and separate invention from the first, and, in support of that proposition, the appellee relies upon the rule announced in *Garratt v. Seibert*, 98 U. S. 77; *Sewall v. Jones*, 91 U. S. 190; and *Merrill v. Yeomans*, 94 U. S. 568. These cases do not, however, establish the appellee's position.

In *Garratt v. Seibert* the arrangement for the operation of the device in the second patent was entirely different from the original patent. In *Sewall v. Jones* it was held that there might be a patent for the process, and one for the product. In *Merrill v. Yeomans* it was held that where a patent described an apparatus, a process, and a product, and the claims covered only the apparatus and the process, the law provided a remedy by a surrender of the patent and a reissue, for the purpose of embracing the product.

A single invention may include both the machine and the manufacture it creates; and in such cases, if the inventions are really separable, the inventor may be entitled to a monopoly of each. It is settled, also, that an inventor may make a new improvement on his own invention of a patentable character, for which he may obtain a separate patent; and the cases cited by the appellee come to this point, and to this point only: That a letter patent may be granted where the invention is clearly distinct from, and independent of, one previously patented.

It clearly appears from a comparison of the two patents, and their respective specifications and drawings, that the first function or object of the patent of 1879, relating **316 to the lifting power of the spring, is identical with the sole object or function covered by the patent of 1881, and that the improved device and combination for the accomplishment of the lifting operation are identical in both patents.

*200 The invention covered by the first patent, as stated in the specification, consists in a spring which serves the double purpose of lifting or holding down the plows at will; and it is further stated that one spring may be adapted to serve all, or either one or more, of the offices above enumerated.

The patent of 1879 thus embraces both the lifting and the depressing effects or operations of the spring device, while that of 1881 seeks to cover only the increased lifting effect of the same device. The first patent clearly includes the second. No substantial distinction can be drawn between the two, which have the same element in combination, and the same spring arrangement and adjustment to accomplish precisely the same lifting effect, increasing as the beams are raised from their operative positions. The matter sought to be covered by the second patent is inseparably involved in the matter embraced in the former patent; and this, under the authorities, renders the second patent void.

If the two patents in question had been granted to different parties, it admits of no question that the last would have been held an infringement of the first, for the reason that the patent of 1879 just as clearly includes as a part of the invention the increased lifting effect of the spring device, increasing as the beams are raised, as that disclosed in the patent of 1881. It certainly did not involve patentable novelty to drop or omit from the patent a claim for the depressing action of the spring arrangement which might be effected by

(Cite as: 151 U.S. 186, *200, 14 S.Ct. 310, **316)

any mere mechanical contrivance.

This view of the case is sustained by the statement in the specification forming a part of the patent of 1881, in which it is said: 'The springs represented in the drawings are adapted to serve the double purpose of holding the beams down, and of lifting them, or assisting to lift them, when they are raised above the operative position. No claim is made, in the present case, to this duplex action of the springs, nor to the peculiar form or arrangement of the springs, otherwise than as regards the feature of exerting or increasing a maximum strain on the beams, as the latter rise; the peculiar construction of the spring being already covered in a patent hitherto granted to me.'

***201** This statement admits that the peculiar construction of the spring device, by means of which the lifting effect was to be accomplished, was already covered in a patent previously granted to the patentee; referring to the patent of 1879. In thus admitting the existence of a prior patented device, identical with that described in the second specification and drawings, it is difficult to understand upon what principle the patentee can be allowed to withdraw from the operation of such prior patent, one of its distinct elements, and make it the subject of a second distinct patent. It is not the result, effect, or purpose to be accomplished which constitutes invention, or entitles a party to a patent, but the mechanical means or instrumentalities by which the object sought is to be attained; but a patentee cannot so split up his invention for the purpose of securing additional results, or of extending or of prolonging the life of any or all of its elemental parts. Patents cover the means employed to effect results. *Pencil Co. v. Howard*, 20 Wall. 507; *Fuller v. Yentzer*, 94 U. S. 288.

The prior invention covered the means, and the only means, by which the results sought by the patent of 1881 were to be accomplished; and it is settled that the patentee of such prior device would be entitled to all of its uses, whether described or not. *Roberts v. Ryer*, 91 U. S. 150; *Stow v. Chicago*, 104 U. S. 547. Under these authorities, a single element or function of a patented invention cannot be made the subject of a separate and subsequent patent; and it therefore follows that this increased lifting effect of the spring device, sought to be covered by the 1881 patent, being clearly shown and described in the specification, drawings, and claims of the 1879 patent, was not the subject matter of a valid patent.

This conclusion is no way affected by the reservation attempted to be made in the 1879 patent, of the 'broad idea of a lifting spring which acts with increasing force as the beam rises,' for the reason that the broad idea sought to be reserved is embodied in identically the same mechanical device constituting the invention and covered by the first patent, which completely occupies all the ground that was reserved. The ***202** spring and its connecting apparatus are the same in each patent, and the claims of the first covered the double automatic action,--upward or downward. There is nothing in the specification or claims to indicate that in the first patent the lifting action is in any degree slighter or weaker as the beam rises than in the second patent; on the contrary, both specifications clearly indicate that the spring device acts with increasing force in each patent as the beam rises.

In addition to this, it distinctly appears that every claim of the 1881 patent could have been properly included and made a part of the claims of the 1879 patent. With the exception of the first broad claim of the 1881 patent, each of the other claims include the spring device with the limiting and qualifying words, 'substantially as described,' and, by virtue of its reference to the specification, the lifting element of the spring device is shown to be the same in each patent. There is nothing in either patent, or ****317** the specification or claims thereof, to indicate that there is any greater or stronger lifting action in the one than in the other. It is thus shown that one and the same mechanical device, which covers the entire invention, is described in each of the patents; and the effort to secure a second patent on one part thereof, or on its function, after such part or its action had been clearly described and covered by a prior patent, cannot be sustained.

To hold, under these circumstances, that the first and second patents, in respect to the lifting effect of the same spring device, present distinct inventions, or that both are valid for the same invention, would involve the drawing of distinctions too refined for the practical administration of the patent law.

But, aside from this 1879 patent, we think that the broad claim of the 1881 patent is clearly anticipated by the patent of W. P. Brown, No. 190,816, dated May 15, 1877, for an improved coupling for cultivators. The specification, forming a part of this patent, states that to 'render the manipulation of the plows or cultivator easy, I provide an arrangement

(Cite as: 151 U.S. 186, *202, 14 S.Ct. 310, **317)

whereby either springs, weights, or the draft bar may be utilized for sustaining a part of the weight of the said cultivators, when they are lifted from the ground to be hung up or shifted laterally. *203 In accomplishing this, I construct the pipe box with a hooked arm, m, to lock the pipe box; and as the cultivator beam in the rear is rigidly attached to the pipe box, by the stirrup or sleeve, the spring has a tendency to rock the pipe box, and assist the driver in lifting the cultivators.' The flat, curved spring device shown in this patent, with the link or arm connecting its free end with the plow beam, exerts little or no force when the drag bars, carrying the plows, are in an operative position; but when the latter are raised above their normal position, and as they are lifted, the spring exerts an increased lifting effect, sufficient to suspend the drag bars and attached shovels in the air. While differing in form and mode of attachment, this Brown device clearly anticipates the first broad claim of the patent of 1881.

It admits of little or no question that, if this Brown patent was one of later date than the Wright patent of 1881, it would be held to be an infringement thereof, and, under the authorities, 'that which infringes if later, anticipates if earlier.' *Peters v. Manufacturing Co.*, 129 U. S. 530, 9 Sup. Ct. 389; *Heating Co. v. Burtis*, 121 U. S. 286, 295, 7 Sup. Ct. 1034; *Grant v. Walter*, 148 U. S. 554, 13 Sup. Ct. 699; *Gordon v. Warder*, 150 U. S. 47, 14 Sup. Ct. 32; *Knapp v. Morss*, 150 U. S. 221, 14 Sup. Ct. 81.

In this view of the case it is not deemed necessary to determine whether the C. A. Hague patent, No. 243,123, of June 21, 1881, or the Berlew & Kissell Patent, No. 260,447, dated July 4, 1882, anticipated that of Wright. The proofs do not show with sufficient clearness that either of these parties perfected and put in practical operation the spring device incorporated in their patents prior to the date of the invention of Wright. The proofs show, however, that they were experimenting--as was Wright--in 1876, 1877, and 1878 with springs for cultivators; but the evidence tends strongly to show that they did not perfect any operative device prior to May 1, 1879.

The remaining branch of the case turns upon the proper construction to be place upon the 1879 patent, in view of the state of the art as illustrated in prior devices and patents.

The Peter Monaghan patent, No. 26,606, dated December *204 27, 1859, for an improvement in

cotton cultivators, contains a bow-shaped spring, with deflected ends, one of which is secured to the cross-pieces of the shafts, while the other is free, and is in contact with the frame to which are attached the shovels. The spring shown in this patent is of such construction and location as to exert a constant lifting effect on the frame carrying the shovels, and, when the operator releases the handles, acts automatically in lifting the frame, and in holding the plows above their operative position.

A similar flat or curved spring device is shown in the A. H. Allison patent, No. 61,649, dated January 29, 1867, for corn and cotton cultivators, where one end of the spring is fastened to the cross-beam of the main frame, while the free end bears and raises the cross-head to which is suspended the shovels. The shovels are made to enter the ground by means of a lever which forces the beam down, and by releasing the lever the springs operate to raise the shovels from the ground, and suspend them above their operative position.

In the H. N. Dalton patent, No. 95,437, dated October 5, 1869, for an improvement in a spring for a gang plow, the spring is coiled around a crank axle, upon which the wheels revolve in the ordinary manner. The coiled spring is of such strength that, when released by the lever or other appliances governing it, the axle is turned by the force of the spring; thereby raising the frame to which the plow is attached. One of the objects accomplished by the coiled spring is to enable the operator to lift the gang plow entirely from the ground.

Again, a spring device closely resembling that of the Wright invention is shown by the letters patent 154,666, dated September 1, 1874, issued to Marquis L. Gorham, relating to wheeled straddle-row cultivators, consisting of an improved device, by means of which shovels are held and adjusted on the shovel standards. The device described in the specification and drawings consists of a spiral regulating spring, in connection with suspension rods and drag beams, so constructed as to suspend the drag bars to **318 any height, or regulate the depth at which the shovels or plows shall work. The suspension rods connected with the spiral spring are arranged to assist in *205 raising the drag bars, for the purpose of elevating the plows in a fixed position when turning or moving the machine. This spring device is connected with the beams, and by means of screw nuts may be contracted so as to regulate the height of the drag bars carrying the shovels. The

(Cite as: 151 U.S. 186, *205, 14 S.Ct. 310, **318)

spring device in this patent exerts, automatically, an increased lifting force as the beams are raised or elevated above their operative position. The second claim of that patent is 'the suspension rods, d, regulating springs, g, drag bars, i, in combination with hangers, e, to which they are attached, substantially as they are described.'

In addition to the foregoing spring improvements in cultivators and like implements, letters patent for door-spring devices were issued to H. S. Frost in 1867, and to L. A. Warner in August, 1875, and April, 1879, which have automatic horizontal action in operating or closing the door, corresponding exactly in principle, operation, and function with the vertical action in the Wright spring device. These door springs and their adjustment close or open the door just as the dead center is passed, either in an outward or inward direction. One or more witnesses testified in this case that these door-spring devices could readily be adapted to cultivators by the exercise of ordinary mechanical skill, and be made to perform, by change in position, the lifting and depressing action of the Wright spring. The witness Hague stated that he actually so applied these door springs in 1877 and 1878. We need not determine in this case whether the use of such springs in cultivators is analogous to their original use, so as to form anticipating devices. They show, however, the state of the art in reference to spring devices for producing action in different directions.

Is shown in the testimony that the spring device described in Wright's patent of 1879 interfered with the lateral motion of the beams, and therefore interfered with their successful operation. It also appears that the spring had a constant tendency to fly off the wheel, which compelled the adoption of a loop or bail (not described as a part of his device) to counteract such tendency, and, further, that the springs were *206 subject to frequent brakage; so that their use was discontinued in 1883, about which time the appellee commenced the use of the same device as that employed in the cultivators manufactured by P. P. Mast & Co., under the patents issued to Gardiner & Downey, No. 237,740, February 15, 1881; Berlew & Kissell, No. 260,447, July 4, 1882; and to J. M. Elder, No. 222,391, December 9, 1879,--and sold by the appellants.

The form of spring as shown in these patents was substantially adopted in 1883 by the appellee, on the theory that the Wright patent comprehended all forms of springs for accomplishing the upward and

downward action. The use of this substituted spring for that described in the patent is, to some extent, explained by the fact, which appears in the record, that Wright obtained letters patent 259,656, dated June 13, 1882, for certain improvements in walking straddle-row cultivators, the specification forming part of which states 'that the invention relates to an improved manner of constructing the frame and applying the springs for the purpose of raising, or assisting the operator to raise, the beams or drag bars; the springs having, in some cases, the additional function of holding the shovels to their proper place in the ground. The improvement consists mainly in providing the frame with axles capable of rotating independently of the wheels, coupling the wheels directly to the axles, and providing the axles with arms arranged to co-operate with a spring, a weight, or draft device to which the term is attached.'

The spring in this 1882 patent of Wright's is spiral, encircling a rod, and bears upon collars on the lower ends of the same. This rod is pivoted to another rod which is firmly fastened to the axle. When the shovels are in an operative position, the spring performs no function. But when the rod attached to the axle, and pivoted to the rod upon which the spring is mounted, is thrown off its center, then the function of the spring is to depress or elevate the shovels, just as the pivoted rod connected with the spring is thrown backward or forward. The real object of the spring is to raise the shovels, which is accomplished by slightly elevating the handles. This *207 action deflects the straight downward pressure of the spring to an angle formed by the bent joint between the rigidly attached rod on the axle and rod encircled by the spring, thereby causing the axle to revolve forward. When the spring is straight, and in a vertical line with the axle, it performs no function whatever; just precisely the same as with the door spring when the door is in the neutral position, or on the dead center. The form of this spring, and its mode of operation, is identical with that adopted by the appellee in 1883, in place of the original spring device shown in the patent of 1879.

The taking out of this patent, covering precisely what is now claimed for the patent of 1879, clearly indicates that the latter patent was not supposed to extend to the device covered by the 1882 patent, which is not distinguishable from the prior patents issued to Gardiner & Downey, Berlew & Kissell, and J. M. Elder, under which P. P. Mast & Co. construct the cultivators sold by the appellants.

(Cite as: 151 U.S. 186, *207, 14 S.Ct. 310, **318)

The range of equivalents depends upon the extent and nature of the invention. If the invention is broad or primary in its character, the range of equivalents will be correspondingly **319 broad, under the liberal construction which the courts give to such inventions. The doctrine is well stated in *Machine Co. v. Lancaster*, 129 U. S. 263, 9 Sup. Ct. 299, where it is said: 'Where an invention is one of a primary character, and the mechanical functions performed by the machine are, as a whole, entirely new, all subsequent machines which employ substantially the same means to accomplish the same result are infringements, although the subsequent machine may contain improvements in the separate mechanism which go to make up the machine.'

Tested by this rule, and in view of the prior devices and the great variety of springs in use previous to the granting of his patent, Wright cannot be treated as a pioneer in the art. Neither can he nor his assignee be allowed to invoke the doctrine of equivalents, such as the courts extend to primary inventions, so as to include all forms of spring devices and adjustments which operate to perform the same function or accomplish the same result.

*208 Again, the issuance of the patents to Gardiner & Downey, Berlew & Kissell, and Elder creates a prima facie presumption of a patentable difference from that of the Wright patent of 1879. *Corning v. Burden*, 15 How. 252; *Duff v. Pump Co.*, 107 U. S. 636, 2 Sup. Ct. 487.

We think it manifest, from the prior state of the art, if the invention covered by his patent of 1879 was not anticipated, and if it has any validity, that it must be limited and confined to the specific spring device which is described in the specification and shown in the drawings forming parts of the letters patent. Being thus limited, there is clearly no infringement in the device used by the appellants or their principals P. P. Mast & Co.

The specific device described in and covered by the Wright patent could not be used in the appellants' combination, nor the appellants' spring in the appellee's combination. This interchangeability or noninterchangeability is an important test in determining the question of infringement. *Prouty v. Ruggles*, 16 Pet. 336; *Brooks v. Fiske*, 15 How. 212; *Eames v. Godfrey*, 1 Wall. 78.

In respect to the so-called depressing action of the spring, when the drag bars and shovels are lowered to an operative position, it is perfectly manifest that little or no effect is produced in that direction, for the reason that the downward movement of the shovels is limited, and more greatly restricted than the upward movement of the beams or drag bars; the range of movement, in other words, not being in the downward line anything like that in the upward direction of the drag bars. Hence the depressing effect of the claim is of no practical importance. The operator holding the handles of the cultivator is not assisted, to any appreciable extent, in keeping the plows in the ground by the depressing action of the spring. The downward action or position of the shovels is not required to go, and does not in fact go, below their operative position, at which point the spring device becomes practically inoperative.

Our conclusion on the whole case is that the patent of 1881 is anticipated by that of 1879; that the first claim thereof is *209 anticipated by the Brown patent; that the patent of 1879, in view of the state of the art, is to be limited and restricted, if it has any validity at all, to the specific spring therein described; and, as thus restricted, it is clearly not infringed.

We are therefore of opinion that the decree of the court below should be reversed, and the cause remanded, with directions to dismiss the bill; and it is accordingly so ordered.

14 S.Ct. 310, 151 U.S. 186, 38 L.Ed. 121

END OF DOCUMENT

United States Court of Appeals,
Federal Circuit.

In re John A. DONOHUE.

Serial No. 263900.
Appeal No. 85-868.

July 3, 1985.

Applicant appealed from a decision of the United States Patent and Trade Mark Office Board of Appeals which sustained final rejection of certain claims of an invention relating to acid compounds which were suitable for producing polymers used to form shaped objects such as film, fibers or molded parts. The Court of Appeals, Jack R. Miller, Senior Circuit Judge, held that the claims were properly rejected as anticipated.

Affirmed.

West Headnotes

[1] Patents ☞ 16(2)
291k16(2)

[1] Patents ☞ 16(3)
291k16(3)

Prior art under 35 U.S.C.A. § 102(b) must sufficiently describe the claimed invention to have placed the public in possession of it; such possession is effected if one of ordinary skill in the art could have combined publication's description of the invention with his own knowledge to make the claimed invention.

[2] Patents ☞ 69
291k69

Even if claimed invention is disclosed in a printed publication, that disclosure will not suffice as prior art if it was not enabling; however, it is not necessary that an invention disclosed in a publication actually be made in order to satisfy the enablement requirement. 35 U.S.C.A. § 102(b).

[3] Courts ☞ 96(1)
106k96(1)

Court of Appeals is bound by decisions of the Court of Customs and Patent Appeals.

[4] Patents ☞ 72(1)
291k72(1)

Anticipation rejection requires a showing that each limitation of a claim must be found in a single reference, practice, or device.

[5] Patents ☞ 72(1)
291k72(1)

Claims of an invention relating to acid compounds which were suitable for producing polymers used to form shaped objects, such as film, fibers or molded parts, were properly rejected under 35 U.S.C.A. § 102(b) as anticipated.

Patents ☞ 328(2)
291k328(2)

3,876,691. Cited.

*531 William Magidson, of Chicago, Ill., argued for appellant.

Harris A. Pitlick, Associate Solicitor, U.S. Patent & Trademark Office, of Arlington, Va., argued for appellee. With him on the brief were Joseph F. Nakamura, Solicitor and John W. Dewhirst, Associate Solicitor, Washington, D.C.

Before MARKEY, Chief Judge, BALDWIN, Circuit Judge, and MILLER, [FN*] Senior Circuit Judge.

FN* Judge Miller assumed senior status effective June 6, 1985.

JACK R. MILLER, Senior Circuit Judge.

This is an appeal from the decision of the U.S. Patent and Trademark Office ("PTO") Board of Appeals ("board") sustaining the *532 final rejection of appellant's claims [FN1] 1, 2, 5, 6, 7, 25, and 28. We affirm.

FN1. In application Serial No. 263,900, filed May 15, 1981, for Tetramethylbiphenylcarboxylic Acids and Derivatives Thereof, which is a division of Serial No. 60,909, filed July 26, 1979, and a continuation of Serial No. 622,649, filed October 15, 1975, which is a continuation-in-part of Serial No. 517,506, filed October 24, 1974.

BACKGROUND

The subject matter of this appeal was previously before this court's predecessor in *In re Donohue*, 632 F.2d 123, 207 USPQ 196 (CCPA 1980) ("*Donohue I*"). [FN2] There is no need to discuss the details of that opinion; however, a summary of the pertinent facts is appropriate for a full understanding of the issues before us.

FN2. *Donohue I* involved application No. 622,649. See note 1, *supra*.

The present invention relates to 2,2',6,6'-tetramethylbiphenyl-4,4'-dicarboxylic acid compounds which are suitable for producing polymers used to form shaped objects, such as film, fibers, or molded parts. Claim 1, which is the sole independent claim on appeal, is illustrative:

2,2',6,6'-tetramethylbiphenyl-4,4'-dicarboxylic acid compound comprising said acid, an acyl halide derivative thereof, or a simple ester thereof.

The PTO has rejected all the appealed claims under 35 U.S.C. § 102(b) "as anticipated by Nomura [et al.], optionally in view of Lincoln and Walker [et al.]."

Nomura et al. ("*Nomura*") [FN3] discloses twelve 2,2',6,6'-tetramethylbiphenyls ("TMBP") which are 4,4'-disubstituted with NH sub2, NMe sub2, OH, OMe, Cl, Br, I, CO sub2 H, CO sub2 Me, CN, NO sub2, or H substituents. Methods of preparing all these compounds, except those disubstituted with CO sub2 H or CO sub2 Me, are set forth in Nomura. Nomura's disclosure of how to make 4,4'-dinitrile (or dicyano) TMBP is particularly significant, because Lincoln [FN4] and Wagner et al. ("*Wagner*") [FN5] teach, generally, the preparation of carboxylic acids from nitriles by hydrolysis.

FN3. Yujiro Nomura and Yoshito Takeuchi, "Substituent Effects in Aromatic Proton Nuclear Magnetic Resonance Spectra. Part VI. [2H sub6] Benzene-induced Solvent Shifts in 4,4'-Disubstituted 2,2',6,6'-Tetramethylbiphenyls and Related Compounds," *J. Chem. Soc'y (B)*, 956-60 (1970).

FN4. U.S. Patent No. 3,876,691, issued April 8, 1975, on application No. 351,696, filed April 16, 1973, for a "Process for the Hydrolysis of Nitriles."

FN5. Wagner et al., *Synthetic Organic Chemistry* 412-15 (John Wiley & Sons, N.Y., N.Y.) (1965).

In *Donohue I*, a majority of the Court of Customs and Patent Appeals ("CCPA") affirmed the PTO's rejection of appealed claims 1, 5, 6, and 7 [FN6] under 35 U.S.C. § 102(b). *Id.* at 127, 207 USPQ at 200. The basis for the rejection was, as it is here, Nomura with reference to Lincoln and Wagner. *Id.* at 126, 207 USPQ at 199.

FN6. Claim 1 in *Donohue I* differs from claim 1 of the present appeal only in that the latter includes the limitation "comprising said acid, an acyl halide derivative thereof, or a simple ester thereof." Claims 5, 6, and 7 of *Donohue I* specify the same dependent features as in the presently-appealed claims of the same number.

A minority of the CCPA voted to reverse the PTO's decision, because they concluded it was uncertain from the text of Nomura that the dicarboxylic acid TMBP and dimethyl ester TMBP were ever prepared. *Id.* at 129, 207 USPQ at 201. Accordingly, Nomura's disclosure was, in the minority's view, no more than a mere naming of the claimed compounds which is insufficient to constitute an enabling disclosure. *Id.* at 129, 207 USPQ at 201.

After *Donohue I*, the presently-appealed application was filed. During prosecution before the PTO, appellant submitted an affidavit under 37 C.F.R. § 1.132 executed by Dr. Ellis K. Fields ("*Fields affidavit*"). In this affidavit, Dr. Fields states that he wrote to Dr. Yoshito Takeuchi, one of the authors of Nomura, to ask whether the disclosed dicarboxylic acid TMBP or dimethyl ester TMBP compounds were ever synthesized, as indicated in Nomura. Dr. Takeuchi responded by stating that these compounds were not synthesized, and Dr. *533 Fields submitted his affidavit to that effect.

Despite the Fields affidavit, the examiner finally rejected the claims, and an appeal to the board was filed. The board affirmed the rejection of the claims on the grounds stated *supra*, holding that it was bound by *Donohue I*. As to the Fields affidavit, the board held that whether the authors of Nomura actually prepared the claimed compounds is not "material or relevant"; rather, the key factor in evaluating the adequacy of a reference's disclosure was deemed to be whether that disclosure would have

been enabling, and the board determined that the CCPA had decided that question with respect to Nomura.

ANALYSIS

Appellant has made a record different from that in *Donohue I* by submitting the Fields affidavit. This new record presents a new issue of patentability with respect to whether the previously-sustained anticipation rejection can still be maintained. In view of this new issue, the PTO properly declined to make a formal *res judicata* rejection and addressed the question of whether the Fields affidavit overcomes the rejection of the claims based on Nomura. See *In re Ackermann*, 444 F.2d 1172, 1176, 170 USPQ 340, 343 (CCPA 1971); *In re Russell*, 439 F.2d 1228, 1230, 169 USPQ 426, 428 (CCPA 1971); *In re Herr*, 377 F.2d 610, 611, 153 USPQ 548, 549 (CCPA 1967).

Appellant argues that the Fields affidavit, which states that the authors of Nomura did not make the disclosed dicarboxylic acid TMBP and dimethyl ester TMBP compounds, overcomes the PTO's rejection. It is urged that *Donohue I* and *In re Samour*, 571 F.2d 559, 197 USPQ 1 (CCPA 1978), require, *inter alia*, that a 35 U.S.C. § 102(b) rejection based on a primary reference disclosing a claimed compound in conjunction with one or more references which teach how to make that compound, should be sustained only if the claimed compound was actually made. We disagree.

[1][2] It is well settled that prior art under 35 U.S.C. § 102(v) must sufficiently describe the claimed invention to have placed the public in possession of it. [FN7] *In re Sasse*, 629 F.2d 675, 681, 207 USPQ 107, 111 (CCPA 1980); *In re Samour*, 571 F.2d at 562, 197 USPQ at 4; see also *Reading & Bates Construction Co. v. Baker Energy Resources Corp.*, 748 F.2d 645, 651-52, 223 USPQ 1168, 1173 (Fed.Cir.1984). Such possession is effected if one of ordinary skill in the art could have combined the publication's description of the invention with his own knowledge to make the claimed invention. See *In re LeGrice*, 301 F.2d at 939, 133 USPQ at 373-74. Accordingly, even if the claimed invention is disclosed in a printed publication, that disclosure will not suffice as prior art if it was not enabling. *In re Borst*, 345 F.2d 851, 855, 145 USPQ 554, 557 (CCPA 1965), *cert. denied*, 382 U.S. 973, 86 S.Ct. 537, 15 L.Ed.2d 465 (1966). It is not, however, necessary that an invention disclosed in a publication

shall have actually been made in order to satisfy the enablement requirement.

FN7. This rule is based on the "described in a printed publication" language in 35 U.S.C. § 102(b). See *In re LeGrice*, 301 F.2d 929, 936, 133 USPQ 365, 371 (CCPA 1962).

In re Wiggins, 488 F.2d 538, 179 USPQ 421 (CCPA 1973) and *In re Sheppard*, 339 F.2d 238, 144 USPQ 42 (CCPA 1964), do not support a contrary view. In those cases, the references were deemed insufficient, because they stated that attempts to prepare the claimed compounds were unsuccessful. Such failures by those skilled in the art (having possession of the information disclosed by the publication) are strong evidence that the disclosure of the publication was nonenabling. By contrast, the fact that the author of a publication did not attempt to make his disclosed invention does not indicate one way or the other whether the publication would have been enabling.

Although *In re Samour* and *Donohue I* mention that the claimed invention in each case was apparently produced in conjunction with the anticipatory reference, this is a far cry from proclaiming that such production *534 is required to meet the enablement requirement. *In re Samour*, in fact, states:

[W]hether or not [the claimed invention] has been made previously is not essential to a determination that a method of preparing it would have been known by, or would have been obvious to, one of ordinary skill in the art.

571 F.2d at 563 n. 6, 197 USPQ at 4 n. 6. Therefore, the statements in *In re Samour* and *Donohue I* that the claimed invention was made previously serve to point out the absence of any strong evidence of nonenablement as in *Wiggins* and *Sheppard*. See *In re Donohue*, 632 F.2d at 126 n. 6, 207 USPQ at 199 n. 6.

[3] At oral argument, appellant also challenged the correctness of the CCPA's holding in *In re Samour* and *Donohue I* that several references can be used together to support an anticipation rejection. However, we are bound by the CCPA's decision in those cases. *South Corp. v. United States*, 690 F.2d 1368, 1370-71, 215 USPQ 657, 658 (Fed.Cir.1982) (in banc). At the same time, we have no difficulty with the rejections made in *In re Samour* and *Donohue I*.

[4][5] It is elementary that an anticipation rejection

(Cite as: 766 F.2d 531, *534)

requires a showing that each limitation of a claim must be found in a single reference, practice, or device. *E.g., Kalman v. Kimberly-Clark Corp.*, 713 F.2d 760, 771, 218 USPQ 781, 789 (Fed.Cir.1983), *cert. denied*, 465 U.S. 1026, 104 S.Ct. 1284, 79 L.Ed.2d 687 (1984). The anticipation rejection used here, as in *In re Samour* and *Donohue I*, is not inconsistent with this rule. See *In re Marshall*, 578 F.2d 301, 304, 198 USPQ 344, 346 (CCPA 1978). The additional references utilized in this case (*viz.*, Lincoln and Wagner) are not relied upon for suggestion or motivation to combine teachings to meet the claim limitations, as in rejections under 35 U.S.C. § 103. *In re Samour*, 571 F.2d at 563, 197 USPQ at 4-5. Such reliance would be pointless, because Nomura alone discloses every element claimed. The purpose of citing Lincoln and Wagner is, instead, to show that the claimed subject matter, as disclosed in Nomura, was in the public's possession. *Id.* Therefore, the anticipation rejection based on Nomura, Lincoln, and Wagner is proper. [FN8]

FN8. Compare *Studiengesellschaft Kohle, M.B.H. v. Dart Industries, Inc.*, 726 F.2d 724, 220 USPQ 841 (Fed.Cir.1984) (recognized exception occasionally permitting use of additional references in anticipation rejections but holding exception

did not apply).

Appellant also argues that the references fail to teach the solubility characteristics and melting point range set forth in dependent claims 25 and 28, respectively. [FN9] However, where, as here, the dicarboxylic acid TMBP and dimethyl ester TMBP of Nomura are identical to the claimed invention, the properties of Nomura's compounds are inherently the same as those of the claimed invention in the absence of proof to the contrary. See *In re Best*, 562 F.2d 1252, 1255, 195 USPQ 430, 433-34 (CCPA 1977).

FN9. Claims 25 and 28 read as follows:

25. The acid of Claim 2, said acid being soluble in ether and N-methyl-2-pyrrolidone.

28. The dimethyl ester of Claim 7, having a melting point of 128-129<<degrees>> > C.

In view of the foregoing, the board's decision is affirmed.

AFFIRMED

766 F.2d 531, 226 U.S.P.Q. 619

END OF DOCUMENT

▽

United States Court of Appeals,
Federal Circuit.

MEHL/BIOPHILE INTERNATIONAL CORP.,
Selvac Acquisitions Corp. and Nardo Zaias,
M.D., Plaintiffs-Appellants,
v.
Sandy MILGRAUM, M.D., Palomar Medical
Technologies, Inc., and Spectrum Medical
Technologies, Inc., Defendants-Appellees.

No. 99-1038.

Sept. 30, 1999.
Rehearing Denied Oct. 27, 1999.

Patentee brought action for infringement of patent claiming method of hair removal using laser. The United States District Court for the District of New Jersey, Alfred M. Wolin, J., 8 F.Supp.2d 434, granted summary judgment of invalidity, and patentee appealed. The Court of Appeals, Rader, Circuit Judge, held that: (1) patent was not anticipated by instruction manual for laser used to remove tattoos, but (2) patent was anticipated by prior art article.

Affirmed.

West Headnotes

[1] Patents ☞72(1)
291k72(1)

To anticipate a patent claim, a prior art reference must disclose every limitation of the claimed invention, either explicitly or inherently.

[2] Patents ☞72(1)
291k72(1)

Under the principles of inherency, if the prior art necessarily functions in accordance with, or includes, the limitations claimed in a patent, it anticipates.

[3] Patents ☞65
291k65

Inherency of patent claim's limitations in a prior art reference, for anticipation purposes, is not necessarily coterminous with the knowledge of those of ordinary skill in the art; artisans of ordinary skill may not recognize the inherent characteristics or functioning

of the prior art.

[4] Patents ☞67.1
291k67.1

Patented method of removing hair by using a laser was not anticipated by instruction manual for laser used to remove tattoos, since manual did not include limitation of aligning laser over a hair follicle opening, and such alignment was not inherent in manual's disclosure, notwithstanding possibility of such alignment.

[5] Patents ☞72(1)
291k72(1)

Occasional results are not inherent, for purpose of determining whether patent is anticipated by prior art alleged to inherently include claimed limitations.

[6] Federal Courts ☞762
170Bk762

Appellees always have the right to assert alternative grounds for affirming the judgment that are supported by the record.

[7] Patents ☞70
291k70

Patented method of removing hair by using a laser was anticipated by prior art article documenting study of tissue damage induced by laser pulses on epilated backs of guinea pigs, which showed that natural result flowing from the operation as taught would result in alignment of the laser light over a hair follicle, as claimed in the patent, notwithstanding fact that study involved guinea pigs or that article failed to mention hair depilation as a goal.

*1363 Jeffrey A. Schwab, Abelman, Frayne & Schwab, of New York, New York, argued for plaintiffs-appellants. With him on the brief were Michael Aschen and Anthony J. DiFilippi. Of counsel on the brief was George A. Arkwright, Schlesinger, Arkwright & Garvey, LLP, of Arlington, Virginia.

Wayne L. Stoner, Hale and Dorr, LLP, of Boston, Massachusetts, argued for defendants-appellees. With him on the brief were William F. Lee and James M. Hall. Of counsel on the brief was Thomas A. Reed, Palomar Medical Technologies, Inc., of Lexington,

Massachusetts.

Before MAYER, MICHEL, and RADER, Circuit Judges.

RADER, Circuit Judge.

In this patent infringement action, MEHL/Biophile International Corp., Selvac Acquisitions Corp., and Dr. Nardo Zaias (collectively, MEHL/Biophile) asserted that Dr. Sandy Milgraum, Palomar Medical Technologies, Inc., and Spectrum Medical Technologies, Inc. (Milgraum) infringed U.S. Patent No. 5,059,192 (the '192 patent). On its motion for summary judgment, Milgraum contended that all of the '192 patent claims were anticipated by an instruction manual for the Spectrum RD-1200 laser and by a 1987 Journal of Investigative Dermatology article authored by Dr. Luigi Polla and others (the Polla article). The district court agreed that the manual anticipated the claims, granted summary judgment of invalidity, and dismissed the action. See *Mehl/Biophile Int'l *1364 Corp. v. Milgraum*, 8 F.Supp.2d 434, 47 USPQ2d 1248 (D.N.J.1998). Although this court disagrees that the manual discloses all the elements of the claimed invention, because the Polla article does, this court affirms.

I.

The '192 patent, entitled "Method of Hair Depilation," claims a method for removing hair using a laser. Hairs grow out of hair follicles, tubular apertures in the skin. The collection of germ cells from which hairs grow, known as the papilla, lies at the base of the follicle. The '192 patent claims a method for destroying the papilla, thereby preventing hair regrowth. The written description discloses the use of a Q-switched ruby laser to effect the destruction.

At a meeting of the American Academy of Dermatology, Dr. Zaias visited Spectrum's booth where Spectrum displayed such a laser, known as the RD-1200. Spectrum sold the RD-1200 for use in removing tattoos. Dr. Zaias recognized that the same principles that govern laser absorption in skin pigmented by a tattoo would also focus laser absorption on the natural skin pigment found in the papilla. More specifically, the papilla contains granules (called melanosomes) of a dark pigment (called melanin). A Q-switched ruby laser aimed at the hair follicle will penetrate the skin and reach the papillary melanin. At a particular wavelength, the

laser will heat up and destroy the papilla without damaging surrounding tissue.

Claim 1 of the patent, the only independent claim, reads:

1. A method of hair depilation, comprising the steps of:
 - a) aligning a laser light applicator substantially vertically over a hair follicle opening, said applicator having an aperture of sufficient area to surround a hair follicle and overlie its papilla;
 - b) applying through said aperture to the hair follicle a pulse of laser energy of a wavelength which is readily absorbed by the melanin of the papilla and having a radiant exposure dose of sufficient energy and duration to damage its papilla so that hair regrowth is prevented and scarring of the surrounding skin is avoided.

Dependent claims 2-6 further specify parameters of the laser light applicator, energy delivery, and the type of laser.

MEHL/Biophile sued Milgraum in the United States District Court for the District of New Jersey for infringement of all the claims of the '192 patent. Milgraum moved for summary judgment of invalidity based on 35 U.S.C. § 102 (1994), arguing that two prior art references each teach all the limitations of the claims. As noted at the outset, Milgraum relied on the manual for the RD-1200 laser which describes the use of a laser to remove tattoos. The manual teaches the use of a Q-switched ruby laser to remove a tattoo: "[E]nergy is selectively absorbed only by pigmented chromophores and not surrounding tissue, greatly reducing the risk of scarring."

Milgraum also relied on the Polla article entitled "Melanosomes Are a Primary Target of Q-Switched Ruby Laser Irradiation in Guinea Pig Skin." The Polla article documents "the tissue damage induced by Q-switched ruby laser pulses in black, brown, and albino (control) guinea pigs ... in an effort to define the nature and extent of pigmented cell injury." The method involves epilating guinea pigs with soft wax, holding the aperture of the laser in contact with the skin, and pulsing the laser. Using an electron microscope, the researchers observed "disruption of melanosomes deep in the hair papillae."

The district court considered both references, but ultimately rested its decision on the RD-1200 manual. MEHL/Biophile appeals. MEHL/Biophile makes several arguments for disregarding the manual as an

anticipating reference. For instance, MEHL/Biophile argues that the manual does not teach use of the laser to remove hair at all. Further MEHL/Biophile contends that the manual does not disclose a substantially vertical alignment, a claim element. As for the Polla article, *1365 MEHL/Biophile argues that the reference relates to guinea pig skin and does not mention hair depilation. In addition, MEHL/Biophile contends that the epilation of the guinea pig backs removed the papilla so the laser treatment could not have damaged the papilla.

II.

This court reviews a district court's grant of summary judgment by reapplying the standard applicable at the district court. See *Conroy v. Reebok Int'l, Ltd.*, 14 F.3d 1570, 1575, 29 USPQ2d 1373, 1377 (Fed.Cir.1994). Summary judgment is appropriate only when "there is no genuine issue as to any material fact and ... the moving party is entitled to a judgment as a matter of law." Fed.R.Civ.P. 56(c). In its review, this court draws all reasonable inferences in favor of the non-movant. See *Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 255, 106 S.Ct. 2505, 91 L.Ed.2d 202 (1986).

[1][2][3] "To anticipate a claim, a prior art reference must disclose every limitation of the claimed invention, either explicitly or inherently." *In re Schreiber*, 128 F.3d 1473, 1477, 44 USPQ2d 1429, 1431 (Fed.Cir.1997). As this court's predecessor stated in *In re Oelrich*, 666 F.2d 578, 581, 212 USPQ 323, 326 (CCPA 1981) (quoting *Hansgirk v. Kemmer*, 26 C.C.P.A. 937, 102 F.2d 212, 214, 40 USPQ 665, 667 (1939)) (internal citations omitted):

Inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing *may* result from a given set of circumstances is not sufficient. If, however, the disclosure is sufficient to show that the natural result flowing from the operation as taught would result in the performance of the questioned function, it seems to be well settled that the disclosure should be regarded as sufficient.

Thus, a prior art reference may anticipate when the claim limitation or limitations not expressly found in that reference are nonetheless inherent in it. See *In re Oelrich*, 666 F.2d at 581; *Verdegaal Bros., Inc. v. Union Oil Co. of Cal.*, 814 F.2d 628, 630, 2 USPQ2d 1051, 1053 (Fed.Cir.1987). Under the principles of inherency, if the prior art necessarily functions in accordance with, or includes, the claimed limitations,

it anticipates. See *In re King*, 801 F.2d 1324, 1326, 231 USPQ 136, 138 (Fed.Cir.1986). Inherency is not necessarily coterminous with the knowledge of those of ordinary skill in the art. Artisans of ordinary skill may not recognize the inherent characteristics or functioning of the prior art. See *id.*, 801 F.2d at 1326.

The RD-1200 Manual

[4] The RD-1200 manual cannot anticipate because it does not teach all the limitations of the claimed invention. Claim 1 includes the step of "aligning a laser light applicator substantially vertically over a hair follicle opening." The parties agree that the manual does not discuss hair follicles, let alone aligning the laser over a hair follicle opening. Thus, the manual does not explicitly teach alignment substantially vertically over a follicle opening. Without explicit teachings of this claim limitation, this court must nonetheless examine whether such alignment is inherent in the manual's disclosure.

[5] The manual teaches aiming the laser at skin pigmented with tattoo ink. The record discloses no necessary relationship between the location of a tattoo and the location of hair follicles. Therefore, an operator of the RD-1200 laser could use the laser according to the manual without necessarily aligning the laser "substantially vertically over a hair follicle opening." The possibility of such an alignment does not legally suffice to show anticipation. See *In re Oelrich*, 666 F.2d at 581. Occasional results are not inherent. Because this court holds that the manual does not inherently teach this limitation of the claimed invention, it does not address MEHL/Biophile's other arguments. To anticipate, a single reference must teach every limitation of the claimed invention. Without an inherent teaching about alignment, the manual does not anticipate the claimed invention.

*1366 The Polla Article

[6] Although the district court did not reach the Polla article in its anticipation analysis, "[a]ppellees always have the right to assert alternative grounds for affirming the judgment that are supported by the record." *Datascope Corp. v. SMEC, Inc.*, 879 F.2d 820, 822 n. 1, 11 USPQ2d 1321, 1322 n. 1 (Fed.Cir.1989). Milgraum asserts that the Polla article constitutes such an alternative ground. This court agrees.

[7] As to the "aligning" step, the Polla article does not suffer from the same deficiency as the manual. It is not a question of probabilities as to whether a person of ordinary skill following the teachings of the article will align the laser light applicator over a hair follicle. The researchers focused their study on the epilated backs of guinea pigs. No one disputes that guinea pigs have hairy backs. Indeed, the article itself is replete with references to the irradiation of hair follicles and resulting follicular damage:

At 0.8 J/cm², epidermal lesions were more marked and involved hair follicles 0.3 mm below the skin surface.... [L]esions were also present 0.5 mm deep in follicles.

[E]ven at the highest radiant exposure (1.2 J/cm²), brown [guinea pig] skin never showed full-thickness epidermal necrosis and at 0.8 J/cm², follicular damage was observed to a depth of 0.5 mm and at 1.2 J/cm² to a depth of 0.7 mm below the skin surface.

Follicular changes were similar in nature and extent to the epidermal alterations described above, and were associated with melanosome disruption.

Specifically, we have shown that ... pigmented structures in the deep dermis such as hair follicles are affected....

The article further contains a photograph showing "[f]ollicular changes induced by ruby laser." The changes include disruption of "melanosomes contained within follicular epithelium." Moreover the article specifically mentioned disruption of the hair papillae:

At 0.8 and 1.2 J/cm², individual melanosomes were more intensely damaged and disruption of melanosomes deep in the hair papillae was observed.

Finally, the method of exposing the Q-switched ruby laser to the guinea pig skin also inherently teaches substantially vertical alignment over hair follicle openings:

The collimated laser beam struck a circular aperture, 2.5 mm in diameter, held in contact with the skin of the animals.

The record shows that holding the collimated laser in contact with the skin would align it perpendicular to the skin surface and therefore substantially vertically over follicle openings. Viewed as a whole, this disclosure shows, in the words of *In re Oelrich*, 666 F.2d at 581, that the "natural result flowing from the operation as taught would result in" alignment of the laser light over a hair follicle, as claimed. No reasonable jury could find otherwise.

MEHL/Biophile's remaining arguments concerning the Polla article are unavailing. The Polla article concerns itself with guinea pig, rather than human, skin, but that difference is irrelevant to the anticipation analysis. Nothing in the claim limits the method's reach to human skin. Similarly, the Polla article's failure to mention hair depilation as a goal is similarly irrelevant. MEHL/Biophile does not dispute on appeal that the laser operating parameters disclosed in the article substantially coincide with those disclosed in the patent. Accordingly, to the extent the embodiment in the patent achieves hair depilation, so does the Polla method. Where, as here, the result is a necessary consequence of what was deliberately intended, it is of no import that the article's authors did not appreciate the results. See *W.L. Gore & Assocs. v. Garlock, Inc.*, 721 F.2d 1540, 1548, 220 USPQ 303, 309 (Fed.Cir.1983). Finally, as mentioned earlier, the article itself belies MEHL/Biophile's argument that the wax epilation prescribed by the article resulted in removal of the papilla. *1367 The article specifically states that "disruption of melanosomes deep in the hair papillae was observed." MEHL/Biophile's expert testimony contradicting the plain language of the reference does not create a genuine issue of fact.

Thus, the Polla article anticipates claim 1 of the '192 patent. Because MEHL/Biophile has not separately argued the validity of the dependent claims, the judgment of invalidity as to those claims also stands.

COSTS

Each party shall bear its own costs.

AFFIRMED

192 F.3d 1362, 52 U.S.P.Q.2d 1303

END OF DOCUMENT

United States Court of Customs and Patent Appeals.

Application of Virgil W. VOGEL and Paul W. Vogel.

Patent Appeal No. 8198.

March 5, 1970, Rehearing Denied June 11, 1970.

Proceeding upon application, serial No. 338,158, for patent for process of preparing packaged meat products for prolonged storage. A decision of the Patent Office Board of Appeals rejected each claim on the ground of double patenting, and the applicant appealed. The United States Court of Customs and Patent Appeals, Lane, J., held that if the same invention is not being claimed twice and no claim in the application defines a merely obvious variation of the invention disclosed and claimed in the patent, there is no double patenting involved and no terminal disclaimer need be filed, and that if the same invention is not being claimed twice but some claim in the application does define a merely obvious variation, a terminal disclaimer is required to prevent undue timewise extension of monopoly.

Affirmed as to claims seven and ten and reversed as to claim eleven.

West Headnotes

[1] Patents ☞ 120
291k120

Statute conferring right of patent for invention prevents two patents from issuing on same invention. 35 U.S.C.A. § 101.

[2] Patents ☞ 120
291k120

As regards contention of double patenting, "invention" means what is defined by the claims, whether new or old, obvious or unobvious, and must not be used in ancient sense of patentable invention; "same invention" in such context means identical subject matter. 35 U.S.C.A. §§ 101-103.

[3] Patents ☞ 165(3)
291k165(3)

Occasionally disclosure will serve as dictionary for terms appearing in patent claims, and in such

instances disclosure may be used in interpreting coverage of claim. 35 U.S.C.A. § 101.

[4] Patents ☞ 120
291k120

Good test and probable only objective test for "same invention" in determining whether there is "same invention" type of double patenting is whether one claim could be literally infringed without literally infringing other. 35 U.S.C.A. § 101.

[5] Patents ☞ 120
291k120

[5] Patents ☞ 155
291k155

Statute conferring right of patent for invention forbids grant of second patent for same invention regardless of presence or absence of terminal disclaimer. 35 U.S.C.A. § 101.

[6] Patents ☞ 120
291k120

In determining whether some claim in application defines merely obvious variation of invention disclosed and claimed in patent held by applicant, patent disclosure may not be used as prior art, though this does not mean that disclosure may not be used at all. 35 U.S.C.A. § 101.

[7] Patents ☞ 120
291k120

In determining issue of double patenting, use of disclosure of existing patent to judge whether tangible embodiment within claim has been modified in obvious manner is not in contravention of cases forbidding its use as prior art, or applying patent as reference, inasmuch as only disclosure of invention claimed in patent may be examined. 35 U.S.C.A. §§ 101, 103.

[8] Patents ☞ 120
291k120

[8] Patents ☞ 156
291k156

If same invention is not being claimed twice and no

claim in application defines merely obvious variation of invention disclosed and claimed in patent, there is no double patenting involved and no terminal disclaimer need be filed. 35 U.S.C.A. § 101.

[9] Patents ☞ 156
291k156

If same invention is not being claimed twice but some claim in application defines merely obvious variation of invention disclosed and claimed in patent, terminal disclaimer is required to prevent undue timewise extension of monopoly. 35 U.S.C.A. § 101.

[10] Patents ☞ 120
291k120

Where patent claims were limited to pork and appealed claims of application were limited to meat or to beef, there was no double patenting of the "same invention" type. 35 U.S.C.A. § 101.

[11] Patents ☞ 120
291k120
(Formerly 291k20)

[11] Patents ☞ 156
291k156

In determining whether there would be double patenting of the "obvious variation" type, so as to determine whether terminal disclaimer would be required, only that portion of the patent specification supporting the patent claims could be considered. 35 U.S.C.A. § 101.

[12] Patents ☞ 120
291k120

Where patent claims supporting patent related to packaging and preservation of pork, claim 11 of subsequent application for patent, for beef packaging and preservation, presented no double patenting situation in absence of indication in record that spoliation characteristics of two meats were similar. 35 U.S.C.A. § 101.

[13] Patents ☞ 120
291k120

[13] Patents ☞ 156
291k156

Where patent claims supporting patent related to

packaging and preservation of pork, claims 7 and 10 of application for subsequent patent reciting process to be performed with meat were merely obvious variations in view of reference patent, and there would be double patenting in absence of terminal disclaimer. 35 U.S.C.A. § 101.

Patents ☞ 328(2)
291k328(2)

3,124,462. Cited.

Patents ☞ 328(4)
291k328(4)

24,992. Cited.

**439 *921 Harvey B. Jacobson, Jacob Shuster, Washington, D.C., attorneys of record, for appellants.

Joseph Schimmel, Washington, D.C., for Commissioner of Patents, Fred W. shirling, Washington, D.C., of counsel.

Before RICH, Acting Chief Judge, ALMOND, BALDWIN, LANE, Judges, and MATTHEWS, Senior Judge, United States District Court for the District of Columbia, sitting by designation

*922 LANE, Judge.

This appeal is from the decision of the Patent Office Board of Appeals affirming the rejection of all claims (7, 10 and 11) in appellants' patent application serial No. 338,158, filed January 16, 1964, for 'Process of Preparing Packaged Meat Products for Prolonged Storage.'

The ground of rejection for each claim is double patenting, based upon the claims of appellants' U.S. patent 3,124,462, issued March 10, 1964, in view of a reference patent of Ellies, Re. 24,992, reissued May 30, 1961. No terminal disclaimer has been filed.

THE APPEALED CLAIMS

Claims 7 and 10 are directed to a process of packaging meat generally. Claim 10 is illustrative:

10. A method for prolonging the storage life of packaged meat products comprising the steps of: removing **440 meat from a freshly slaughtered carcass at substantially the body bleeding temperature thereof under ambient temperature conditions; comminuting the meat during an exposure period

(Cite as: 57 C.C.P.A. 920, *922, 422 F.2d 438, **440)

following slaughter while the meat is at a temperature between said bleeding and ambient temperatures; sealing the comminuted meat within a flexible packaging material having an oxygen permeability ranging from $0.01 \times 10^{-(10)}$ to $0.1 \times 10^{-(10)}$ cc.mm/sec/cm(2)/cm Hg at 30 degrees C. during said exposure period and before the meat has declined in temperature to the ambient temperature; and rapidly reducing the temperature of the packaged meat to a storage temperature below the ambient temperature immediately following said packaging of the meat.

The invention is based on appellants' discovery that spoilage and discoloration of meat are markedly accelerated if the meat is allowed to reach ambient temperature before packaging.

Claim 11 is directed to a similar process specifically limited to beef.

PRIOR ART

The only reference of record is Ellies. Ellies teaches the use of meat- packaging material having the oxygen permeability range recited in the claims.

THE PATENT

Appellants' patent, which is not prior art, claims a method of processing pork. Claim 1 of the patent is illustrative.

1. A method of preparing pork products, comprising the steps of: bonding a freshly slaughtered carcass while still hot into trimmings; grinding desired carcass trimmings while still warm and fluent; mixing the ground trimmings while fluent and above approximately 80 degrees F., mixing the be completed not more than approximately 3 1/2 hours after the carcass has been bled and stuffing the warm and fluent mixed trimmings into air impermeable casings.

*923 THE BOARD

The board characterized the rejection as follows:

The sole ground of rejection is that claims 7, 10 and 11 are unpatentable over appellants' copending patented claims in Vogel et al., in view of Ellies. This is a double-patenting type rejection, whose statutory basis is 35 U.S.C. 101, as indicated in In re Ockert, 44 CCPA 1024; 1957 CD 404; 722 OG 222; 245 F.2d 467; 114 USPQ 330.

Thus the board viewed this case as involving 'same invention' type double patenting. The board then discussed the differences between the appealed claims and the patent claims and found that the former did not define a 'patentable advance' over the latter. It is thus clear that the board was not at all dealing with 'same invention' type double patenting but with the 'obvious variation' type. [FN1] The board found that the appealed claims merely extended the pork process to beef, and that this was not a 'patentable advance.' Such language states only a conclusion, since patentability is the very issue to be determined. The board gave the following analysis to support its conclusion:

FN1. The examiner's final rejection and the solicitor's oral argument contend that only a single invention is involved. They go on to point out the differences. Apparently they were thinking that 'invention' means 'patentable invention.' This has not been the language of the law since January 1, 1953. See 35 U.S.C. §§ 102, 103.

We agree with the Examiner's reasons for holding the application of the claimed method to beef to be an unpatentable adaptation. In addition, the definition of 'sausage' in Webster's 3rd New International Dictionary of 1963, on page 2019 is pertinent:

'sausage-- a highly seasoned finely divided meat that is usually a **441 mixture (as of beef or pork) * * *

The examiner's reasons as stated in his answer were that the process steps are essentially the same, and the choice of beef rather than pork 'is of no patentable significance since this would appear to be a judicious choice of available meat products, well within the ordinary skill of the art, and particularly so, in the absence of any unusual or unobvious result.'

The board's use of the dictionary meaning of 'sausage,' as above quoted, is apparently intended to show that beef and pork are equivalents. Whatever may be their equivalency in other contexts, the dictionary definition of 'sausage' does not show that beef and pork are equivalents in the sense of the invention now claimed. Appellants contend that the examiner and the board used the disclosure of the patent as a basis for concluding obviousness. To the effect that consideration of the patent disclosure is improper in testing for obvious- type double patenting, appellants cite In re Baird, 348 F.2d 974, 52 CCPA 1747 (1965).

***924 OPINION**

The proceedings below in this case indicate the advisability of a restatement of the law of double patenting as enunciated by this court.

[1][2][3][4] The first question in the analysis is: Is the same invention being claimed twice? 35 U.S.C. § 101 prevents two patents from issuing on the same invention. See, e.g., *In re Boylan*, 392 F.2d 1017, 55 CCPA 1041 (1968). As we have said many times, 'invention' here means what is defined by the claims, whether new or old, obvious or unobvious; it must not be used in the ancient sense of 'patentable invention,' or hopeless confusion will ensue. By 'same invention' we mean identical subject matter. Thus the invention defined by a claim reciting 'halogen' is not the same as that defined by a claim reciting 'chlorine,' because the former is broader than the latter. On the other hand, claims may be differently worded and still define the same invention. Thus a claim reciting a length of 'thirty-six inches' defines the same invention as a claim reciting a length of 'three feet,' if all other limitations are identical. In determining the meaning of a word in a claim, the specification may be examined. It must be borne in mind, however, especially in non-chemical cases, that the words in a claim are generally not limited in their meaning by what is shown in the disclosure. Occasionally the disclosure will serve as a dictionary for terms appearing in the claims, and in such instances the disclosure may be used in interpreting the coverage of the claim. *In re Baird*, supra. A good test, and probably the only objective test, for 'same invention,' is whether one of the claims could be literally infringed without literally infringing the other. If it could be, the claims do not define identically the same invention. This is essentially the test applied in *In re Eckel*, 393 F.2d 848, 55 CCPA 1068 (1968). There the court rejected the idea of 'colorable variation' as a comparison category and stated that inventions were either the same, or obvious variations, or unobvious variations. The court's holding in *Eckel* was that same invention means identically same invention.

[5] If it is determined that the same invention is being claimed twice, 35 U.S.C. § 101 forbids the grant of the second patent, regardless of the presence or absence of a terminal disclaimer. If the same invention is not being claimed twice, a second question must be asked.

[6][7] The second analysis question is: Does any

claim in the application define merely an obvious variation of an invention disclosed and claimed in the patent? In considering the question, the patent disclosure may not be used as prior art. *In re Boylan*, supra; *In re Aldrich*, 398 F.2d 855, 55 CCPA 1431 (1968). This does not mean that the disclosure may not be used at all. As pointed out above, in certain instances it may be used as a dictionary to learn *925 the meaning of terms in a claim. It may **442 also be used as required to answer the second analysis question above. We recognize that it is most difficult, if not meaningless, to try to say what is or is not an obvious variation of a claim. A claim is a group of words defining only the boundary of the patent monopoly. It may not describe any physical thing and indeed may encompass physical things not yet dreamed of. How can it be obvious or not obvious to modify a legal boundary? The disclosure, however, sets forth at least one tangible embodiment within the claim, and it is less difficult and more meaningful to judge whether that thing has been modified in an obvious manner. It must be noted that this use of the disclosure is not in contravention of the cases forbidding its use as prior art, nor is it applying the patent as a reference under 35 U.S.C. § 103, since only the disclosure of the invention claimed in the patent may be examined.

[8][9] If the answer to the second question is no, there is no double patenting involved and no terminal disclaimer need be filed. If the answer is yes, a terminal disclaimer is required to prevent undue timewise extension of monopoly.

We now apply this analysis to the case before us.

[10] The first question is: Is the same invention being claimed twice? The answer is no. The patent claims are limited to pork. Appealed claims 7 and 10 are limited to meat, which is not the same thing. Claims 7 and 10 could be infringed by many processes which would not infringe any of the patent claims. Claim 11 is limited to beef. Beef is not the same thing as pork.

We move to the second question: Does any appealed claim define merely an obvious variation of an invention disclosed and claimed in the patent? We must analyze the claims separately.

[11][12] As to claim 11 the answer is no. This claim defines a process to be performed with beef. We must now determine how much of the patent disclosure pertains to the invention claimed in the patent, which is a process to be performed with pork,

(Cite as: 57 C.C.P.A. 920, *925, 422 F.2d 438, **442)

to which all the patent claims are limited. The specification begins with certain broad assertions about meat sausages. These assertions do not support the patent claims. The patent claims recite 'pork' and 'pork' does not read on 'meat.' To consider these broad assertions would be using the patent as prior art, which it is not. The specification then states how the process is to be carried out with pork. This portion of the specification supports the patent claims and may be considered. It describes in tabular form the time and temperature limits associated with the pork process. Appealed claim 11, reciting beef, does not read on the pork process disclosed and claimed in the patent. Further, we conclude that claim 11 does not define merely an obvious variation of the pork process. The specific *926 time and temperature considerations with respect to pork might not be applicable to beef. There is nothing in the record to indicate that the spoilage characteristics of the two meats are similar. Accordingly, claim 11 does not present any kind of double patenting situation.

[13] Appealed claim 10, supra, will now be considered. It recites a process to be performed with 'meat.' 'Meat' reads literally on pork. The only limitation appearing in claim 10 which is not

disclosed in the available portion of the patent disclosure is the permeability range of the packaging material; but this is merely an obvious variation as shown by Ellies. The answer to the second analysis question, therefore, is yes, and the claim is not allowable in the absence of a terminal disclaimer. The correctness of this conclusion is demonstrated by observing that claim 10, by reciting 'meat,' includes pork. Its allowance for a full term would therefore extend the time of monopoly as to the pork process. It is further noted that viewing the inventions in reverse order, i.e. as though the broader claims issued first, does not reveal that the narrower **443 (pork) process is in any way unobvious over the broader (meat) invention disclosed and claimed in the instant application. The same considerations and result apply to claim 7.

The decision of the board is affirmed as to claims 7 and 10 and reversed as to claim 11.

*921 Modified.

422 F.2d 438, 57 C.C.P.A. 920, 164 U.S.P.Q. 619

END OF DOCUMENT

▷

United States Court of Appeals,
Federal Circuit.

HELIFIX LIMITED, Plaintiff-Appellant,
v.
BLOK-LOK, LTD. and William Scott Burns,
Defendants-Appellees,
v.
Helifix North America Corporation, Third-Party
Counterclaim Defendant.

No. 99-1196.

April 7, 2000

Patentee brought action for infringement of patent for method of securing layers of masonry. The United States District Court for the District of Massachusetts, Robert E. Keeton, J., 26 F.Supp.2d 294, denied patentee's motion for preliminary injunction and granted summary judgment of patent invalidity in favor of alleged infringer. Patentee appealed. The Court of Appeals, Schall, Circuit Judge, held that: (1) fact questions precluded summary judgment for alleged infringer on issue of invalidity, but (2) patentee was not entitled to preliminary injunction.

Affirmed in part, vacated in part, and remanded.

West Headnotes

[1] Federal Courts ☞ 768.1
170Bk768.1

Court of Appeals would exercise its discretion to invoke pendent appellate jurisdiction over the interlocutory grant of summary judgment, where it was closely interrelated factually to the preliminary injunction.

[2] Patents ☞ 112.5
291k112.5

A patent is presumed to be valid, and this presumption only can be overcome by clear and convincing evidence to the contrary. 35 U.S.C.A. § 282.

[3] Patents ☞ 72(1)
291k72(1)

First step of an anticipation analysis is patent claim

construction. 35 U.S.C.A. § 102(b).

[4] Patents ☞ 324.5
291k324.5

Patent claim construction is a question of law that appellate court reviews de novo.

[5] Patents ☞ 159
291k159

[5] Patents ☞ 165(1)
291k165(1)

[5] Patents ☞ 167(1)
291k167(1)

[5] Patents ☞ 168(2.1)
291k168(2.1)

In construing patent claims, court looks to the intrinsic evidence of record-- the claims, the specification, and, if in evidence, the prosecution history; if intrinsic evidence resolves all ambiguities, extrinsic evidence is not considered.

[6] Patents ☞ 175
291k175

Patent for method of securing layers of masonry did not require specific tool described in patent specification, a hammer drilling machine fitted with SDS chuck; claim of patent recited a tool into which tie could be inserted and that impactingly drove tie and rotatably permitted same to rotate, and specification itself taught that different tools could be used so long as tie was permitted to rotate.

[7] Patents ☞ 72(1)
291k72(1)

The second step in an anticipation analysis involves a comparison of the construed patent claim to the prior art. 35 U.S.C.A. § 102(b).

[8] Patents ☞ 65
291k65

[8] Patents ☞ 69
291k69

To be anticipating of patent, a prior art reference

must disclose each and every limitation of the claimed invention, must be enabling, and must describe the claimed invention sufficiently to have placed it in possession of a person of ordinary skill in the field of the invention. 35 U.S.C.A. § 102(b).

[9] Patents ☞ 323.2(3)
291k323.2(3)

Fact question existed regarding whether earlier brochure disclosed elements of later patent for method of securing layers of masonry, thus precluding summary judgment for alleged infringer on ground that patent was anticipated. 35 U.S.C.A. § 102(b).

[10] Patents ☞ 74
291k74

In constructing hypothetical person of ordinary skill in the art, for purpose of determining whether patent was anticipated, court should not be determining which persons working in the field of the invention are likely to be familiar with the relevant literature; rather, court should consider educational level of the inventor, the type of problems encountered in the art, the prior art solutions to those problems, the rapidity with which innovations are made, the sophistication of the technology, and the educational level of workers in the field. 35 U.S.C.A. § 102(b).

[11] Patents ☞ 69
291k69

For purposes of anticipation of patent, even if the claimed invention is disclosed in a printed publication, that disclosure will not suffice as prior art if it was not enabling. 35 U.S.C.A. § 102(b).

[12] Patents ☞ 62(1)
291k62(1)

Alleged infringer failed to provide clear and convincing evidence that patent for method of securing layers of masonry was enabled by trade show brochure, for purpose of determining whether patent was anticipated by brochure; alleged infringer did not present any evidence indicating that person of ordinary skill in the art could have made or obtained tool capable of being used in claimed method without undue amount of experimentation. 35 U.S.C.A. § 102(b).

[13] Patents ☞ 323.2(3)

291k323.2(3)

Fact question existed regarding whether method claimed in patent for method of securing layers of masonry was ready for patenting at time of trade show, thus precluding summary judgment for alleged infringer on issue of whether patent was invalid under on-sale bar. 35 U.S.C.A. § 102(b).

[14] Injunction ☞ 138.1
212k138.1

To obtain the extraordinary relief of a preliminary injunction, the moving party must establish that: (1) it has a reasonable likelihood of succeeding on the merits; (2) it will suffer irreparable harm if the injunction is not granted; (3) the balance of hardships tips in its favor; and (4) an injunction would be consistent with the public interest.

[15] Patents ☞ 324.1
291k324.1

To overturn the denial of a preliminary injunction, the patentee must show not only that one or more of the factors relied on by the district court was clearly erroneous, but also that a denial of the preliminary relief sought would amount to an abuse of discretion upon reversal of an erroneous finding.

[16] Patents ☞ 303
291k303

A patent holder seeking a preliminary injunction bears the burden of establishing a likelihood of success on the merits with respect to the patent's validity.

[17] Patents ☞ 295
291k295

If the alleged infringer raises a substantial question concerning validity, as by asserting an invalidity defense that the patentee cannot prove lacks substantial merit, the preliminary injunction should not issue.

[18] Patents ☞ 298
291k298

Patentee failed to establish likelihood of success on claim that patent was valid, and thus patentee was not entitled to preliminary injunction against alleged infringer; patentee was unable to establish that

alleged infringer's defenses of invalidity by reason of anticipation and on-sale bar lacked substantial merit.

Patents ¶ 328(2)
291k328(2)

5,687,801. Cited.

*1341 Jack E. Dominik, Dominik, Knechtel, Demeur & Samlan, of Miami Lakes, Florida, argued for plaintiff-appellant.

H. Bissell Carey, III, Robinson & Cole LLP, of Boston, Massachusetts, argued for defendants-appellees.

Before RADER, SCHALL, and GAJARSA, Circuit Judges.

SCHALL, Circuit Judge.

Helifix Limited ("Helifix") appeals the order of the United States District Court for the District of Massachusetts denying its motion to preliminarily enjoin Blok-Lok, Ltd. and William Scott Burns [FN1] (collectively "Blok-Lok") from inducing infringement of, and contributorily infringing, United States Patent No. 5,687,801 ("the '801 patent"). See *Helifix Ltd. v. Blok-Lok, Ltd.*, 26 F.Supp.2d 294 (D.Mass. 1998) (memorandum and order). Helifix also appeals the district court's interlocutory order granting summary judgment of patent invalidity in favor of Blok-Lok on Blok-Lok's counterclaim against Helifix. [FN2] The district court held that the '801 patent was invalid by reason of anticipation and the on-sale bar under 35 U.S.C. § 102(b) (1994). See *Helifix Ltd. v. Blok-Lok, Ltd.*, 26 F.Supp.2d 294, 52 USPQ2d 1486 (D.Mass.1998). We affirm the denial of the motion for a preliminary injunction, vacate the grant of summary judgment of patent invalidity, and remand for further proceedings.

FN1. William Scott Burns is the general manager of Blok-Lok, Ltd. and was named as a defendant in Helifix's complaint.

FN2. Blok-Lok's Lanham Act counterclaim named as a third-party defendant Helifix North America Corporation, a wholly-owned subsidiary of Helifix.

BACKGROUND

I.

The '801 patent, entitled "Method of Securing Walls

with a Tie," issued from an application filed on September 27, 1996. That application was a divisional of Application Serial No. 08/491,358, filed June 30, 1995, which was a continuation-in-part of Application Serial No. 08/204,465, filed February 28, 1994. The patent names Robert Ian Paterson and Brian Alan Breeze as the inventors and Helifix as the assignee. The patent is directed to a method of securing layers of masonry *1342 ("wythes"), such as an exterior brick wall and an interior concrete wall, by means of ties. See, e.g., '801 pat., claim 1. The typical tie is described as spiral-shaped, 7-8 inches long, and made of solid stainless-steel. See *id.* at col. 2, ll. 55-56, col. 4, l. 42. The sole claim of the patent recites:

1. A method of securing (1) two or more wythes in a building structure (2) utilizing a helical tie member (3) having longitudinal helical flutes terminating at a cutting end at one end and (4) terminating at a remote end opposite the cutting end comprising the steps of:

(5) drilling a first wythe to a diameter less than than [sic] a diameter of the flutes on the tie to be inserted,

(6) drilling a pilot hole in a second wythe to a predetermined depth,

(7) inserting the remote end of the tie into a tool which (8) impactingly drives the tie and (9) rotatably permits the same to rotate as a helical bed is developed in the first wythe due to penetration by the tie,

(10) passing the flutes into the second wythe and continuing to impactingly drive the tie to a base of the pilot hole,

(11) removing the driving tool from the remote end of the tie,

and thereafter (12) finishing the remote end of the tie in accordance with mandates of the site.

(The reference numerals are those added by the district court in its summary judgment order, see *Helifix*, 26 F.Supp.2d at 297, 52 USPQ2d at 1489.) The patent teaches that pursuant to this method "the tie helically grasps the interior wythe ... as well as the exterior wythe ..., and a dry fix or tying [sic] relationship is developed." '801 pat., col. 5, ll. 34-36. The patent states that different tools can be used to drive the tie, "so long as the tie is permitted to rotate," *id.* at col. 4, l. 51, and that "[i]t is important that the tie be free to rotate in the ... [tool] to avoid creating any stress in the masonry other than that imparted by the hammering action of the tie," *id.* at col. 5, ll. 47-52.

Figure 7 of the '801 patent shows a workman 21

practicing the invention of claim 1 by driving a helical tie member 10 into a building structure to secure a first wythe 2 to a second wythe 4:

Image 1 (2.75" X 5.25") Available for Offline Print

Figure 13 of the patent shows a helical tie member 10 securing wythes 2 and 4 in a building structure:

*1343

Image 2 (2.75" X 5.25") Available for Offline Print

FIG. 13
II.

In January of 1993, representatives of Helifix attended the World of Concrete trade show in Las Vegas, Nevada, where they displayed and distributed a brochure ("the '93 brochure"). The '93 brochure describes Helifix stainless steel ties and their use in masonry refacing and new construction. It also describes the use of the ties in both "DryFix" and "Dry-Chemical Fix" methods of construction. [FN3] With regard to the ties, the '93 brochure states:

FN3. In the DryFix method, the tie is secured to the wythes without chemicals. In the Dry-Chemical Fix method, a chemical resin secures the tie to the outer wythe.

The Helifix tie has a unique design which causes it to auger as it is installed. The tie cuts a helical groove as it corkscrews into the wall ensuring that it bonds securely with most construction materials.

With regard to the DryFix method, which is at issue in this case, the '93 brochure states:

The DryFix technique is used to pin facing material to the backup where the cavity is minimal or non-existent. Ideal for pinning masonry facings or veneers to brick, block, or concrete. Ideal for use in multi-wythe composite walls.

The brochure explains the DryFix method with the following diagrams and descriptions:

1. Having determined the points of entry for the Helifix ties, a hole is drilled through the outer wythe into the backup substrate to a predetermined depth.

Image 3 (1.5" X 5.25") Available for Offline Print

2. The DryFix masonry tie is loaded into the insertion tool and power driven until the outer end of the tie is recessed below the face of the brickwork.

*1344

Image 4 (1.5" X 5.25") Available for Offline Print

3. The outer face is then finished with matching materials.

Image 5 (1.5" X 5.25") Available for Offline Print

The DryFix portion of the brochure also states that "... the special augering action of the tie avoids bricks or blocks splitting...."

The last paragraph of the brochure is a "warranty" that provides as follows:

Seller makes no warranty of any kind, express or implied, except that the goods sold under this agreement shall be of the standard quality of seller, and buyer assumes all risk and liability resulting from the use of the goods, whether used singly or in combination with other goods. Seller neither assumes nor authorizes any person to assume for seller any other liability in connection with the sale or use of the goods sold, and there is no oral agreement or warranty collateral to or affecting this transaction.

The brochure also sets forth a telephone number and address to contact "for further information."

III.

On June 4, 1998, Helifix filed suit against Blok-Lok, alleging that Blok-Lok was infringing and inducing infringement of the '801 patent, was infringing Helifix's copyrighted catalogues, and was falsely designating the sponsorship of non-Helifix products as Helifix products. Helifix sought a preliminary injunction of the activities alleged to infringe the patent and demanded a jury trial. On July 9, 1998, Blok-Lok filed a counterclaim which included a request for a declaratory judgment of patent invalidity. Blok-Lok asserted that the '93 brochure describes the method claimed in the '801 patent and that the claimed method was on sale at the January 1993 World of Concrete trade show. Because the earliest United States priority date of the '801 patent, the February 28, 1994 filing date of Application Serial No. 08/204,465, was more than one year after the brochure was publicly distributed and more than one year after the trade show, Blok-Lok asserted that

the method was unpatentable under 35 U.S.C. § 102(b).

In due course, Helifix moved for summary judgment of patent infringement and Blok-Lok cross-moved for summary judgment *1345 of patent invalidity. The district court denied both motions on September 14, 1998. However, after a hearing on September 15, 1998, the court invited Blok-Lok to renew its motion. Blok-Lok did so, and on November 5, 1998, the court granted the renewed motion for summary judgment in an interlocutory order. *See Helifix*, 26 F.Supp.2d at 303, 52 USPQ2d at 1494. In doing so, the court construed claim 1 of the '801 patent, focusing on the tool recited in the claim. *See id.* at 296-98, 52 USPQ2d at 1488-89. The court concluded that the claim is not limited to the specific tool described in the patent specification. *See id.* at 298, 52 USPQ2d at 1489. The court then determined that the '801 patent is anticipated by the '93 brochure under 35 U.S.C. § 102(b) and that activities at the World of Concrete trade show in January of 1993 amounted to an on-sale bar under 35 U.S.C. § 102(b). *See id.* at 298-303, 52 USPQ2d at 1490-93. The court therefore granted Blok-Lok's motion for summary judgment of patent invalidity on an interlocutory basis. [FN4] *See id.* at 303, 52 USPQ2d at 1494.

FN4. The ruling was interlocutory because it did not dispose of all of the parties' claims. Specifically, there remained Helifix's copyright and false designation of origin claims and Blok-Lok's correction of inventorship, breach of contract, and Lanham Act claims.

On December 15, 1998, the district court denied Helifix's motion to preliminarily enjoin Blok-Lok from inducing infringement of, and contributorily infringing, the '801 patent. *See Helifix*, 26 F.Supp.2d at 296. The court did so based upon its grant of summary judgment the previous month in favor of Blok-Lok:

It would not be consistent with the court's order of November 5, 1998 ... to grant plaintiff's motion for preliminary injunction that would prevent the defendants from infringing the '801 patent. That part of plaintiff's motion is denied.

Id.

Helifix appeals from the denial of its request for a preliminary injunction and the court's grant of Blok-Lok's motion for summary judgment.

DISCUSSION

I.

[1] We have jurisdiction over the appeal of the denial of Helifix's request for a preliminary injunction pursuant to 28 U.S.C. § 1292(c)(1) (1994). We exercise our discretion to invoke pendent appellate jurisdiction over the interlocutory grant of summary judgment "because it is 'closely interrelated factually' to the preliminary injunction." *Gerber Garment Tech., Inc. v. Lectra Sys., Inc.*, 916 F.2d 683, 686, 16 USPQ2d 1436, 1439 (Fed.Cir.1990) (quoting *Intermedics Infusaid, Inc. v. Regents of the Univ. of Minn.*, 804 F.2d 129, 134, 231 USPQ 653, 657 (Fed.Cir.1986)); *see also Clinton v. Jones*, 520 U.S. 681, 707 n. 41, 117 S.Ct. 1636, 137 L.Ed.2d 945 (1997) (approving of the Court of Appeals' invocation of pendent appellate jurisdiction over Jones' cross-appeal because it was " 'inextricably intertwined' " with Clinton's appeal and review of the cross-appeal was " 'necessary to ensure meaningful review' " of the appeal (quoting *Swint v. Chambers County Comm'n*, 514 U.S. 35, 51, 115 S.Ct. 1203, 131 L.Ed.2d 60 (1995))). As just seen, the district court based its denial of the preliminary injunction request on its summary judgment ruling in favor of Blok-Lok. *See Helifix*, 26 F.Supp.2d at 296. Thus, the denial of the preliminary injunction and the grant of summary judgment are "inextricably intertwined."

II.

[2] We turn first to the summary judgment of patent invalidity because it formed the basis for the district court's denial of Helifix's request for a preliminary injunction. We review a grant of summary judgment *de novo*, and affirm only if, when the facts are viewed in the light most favorable to the non-moving party and all doubts are resolved in favor of the non-movant, there are no genuine issues of *1346 material fact and the moving party is entitled to judgment as a matter of law. *See Robotic Vision Sys., Inc. v. View Eng'g, Inc.*, 112 F.3d 1163, 1165, 42 USPQ2d 1619, 1621 (Fed.Cir.1997). A patent is presumed to be valid, *see* 35 U.S.C. § 282 (1994), and this presumption only can be overcome by clear and convincing evidence to the contrary. *See, e.g., WMS Gaming Inc. v. International Game Tech.*, 184 F.3d 1339, 1355, 51 USPQ2d 1385, 1396-97 (Fed.Cir.1999). To be entitled to summary judgment, therefore, Blok-Lok had to establish that there were no material facts in dispute relating to its assertion of anticipation, and it had to present clear and convincing evidence that the '93 brochure anticipates the claim of the '801 patent. Alternatively, Blok-Lok

had to establish that there were no material facts in dispute relating to its assertion of the on-sale bar, and it had to present clear and convincing evidence that the invention claimed in the '801 patent was on sale at the World of Concrete trade show.

A. Anticipation

[3][4][5] An invention is anticipated under 35 U.S.C. § 102(b) if it "was ... described in a printed publication in this ... country ... more than one year prior to the date of application for patent in the United States." 35 U.S.C. § 102(b). The first step of an anticipation analysis is claim construction. See *Key Pharms. v. Hercon Labs. Corp.*, 161 F.3d 709, 714, 48 USPQ2d 1911, 1915 (Fed.Cir.1998). Claim construction is a question of law that we review *de novo*. See *Cybor Corp. v. FAS Techs., Inc.*, 138 F.3d 1448, 1456, 46 USPQ2d 1169, 1174 (Fed.Cir.1998) (en banc). In construing patent claims, we look to the intrinsic evidence of record--the claims, the specification, and, if in evidence, the prosecution history. See *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582-83, 39 USPQ2d 1573, 1576-77 (Fed.Cir.1996). If intrinsic evidence resolves all ambiguities, extrinsic evidence is not considered. See *id.*

[6] 1. The district court construed the claim of the '801 patent as not requiring the specific tool described in the patent specification, a hammer drilling machine fitted with an SDS chuck. See *Helifix*, 26 F.Supp.2d at 298, 52 USPQ2d at 1489. We see no error in that construction. The claim of the '801 patent does not limit the method to a hammer drilling machine fitted with an SDS chuck, but recites a tool into which a tie can be inserted and that "impactingly drives the tie and rotatably permits the same to rotate" '801 pat., claim 1. The specification itself teaches that different tools can be used "so long as the tie is permitted to rotate." *Id.* at col. 4, ll. 46-51. The prosecution history reveals that the Patent Office determined that the method could be practiced without the specific tool described in the specification, and there is no indication that Helifix challenged that determination.

[7][8] 2. The second step in an anticipation analysis involves a comparison of the construed claim to the prior art. See *Key Pharms.*, 161 F.3d at 714, 48 USPQ2d at 1915. To be anticipating, a prior art reference must disclose "each and every limitation of the claimed invention[,] ... must be enabling[,] and [must] describe ... [the] claimed invention sufficiently to have placed it in possession of a person of ordinary

skill in the field of the invention." *In re Paulsen*, 30 F.3d 1475, 1478-79, 31 USPQ2d 1671, 1673 (Fed.Cir.1994). If there is a genuine issue of material fact relevant to any one of these factors, summary judgment is not proper.

[9] Helifix acknowledges that the '93 brochure was publicly distributed at the World of Concrete trade show more than one year before the earliest United States priority date for the '801 patent. It also acknowledges that the brochure teaches elements (1)--(7) and (11) and (12) of the '801 patent claim, as numbered by the district court. It argues, however, that the '93 brochure does not teach elements (8)--(10) of the claim. Specifically, it asserts that the brochure does not teach that the tool "impactingly drives the tie and *1347 rotatably permits the same to rotate." '801 pat., claim 1.

The '93 brochure does not expressly disclose in words elements (8)-(10) of claim 1 of the '801 patent. The brochure might nevertheless be anticipating if a person of ordinary skill in the art would understand the brochure as disclosing elements (8)-(10) and if such a person could have combined the brochure's description of the invention with his own knowledge to make the claimed invention. See *In re Donohue*, 766 F.2d 531, 533, 226 USPQ 619, 621 (Fed.Cir.1985).

The district court assumed that because a person of ordinary skill in the art is deemed to be aware of all relevant prior art, see *Custom Accessories, Inc. v. Jeffrey-Allan Indus., Inc.*, 807 F.2d 955, 962, 1 USPQ2d 1196, 1201 (Fed.Cir.1986), such a person must be someone who is familiar with the pertinent literature and who is likely to attend trade shows. See *Helifix*, 26 F.Supp.2d at 299, 52 USPQ2d at 1490-91. From that, the court reasoned that a person of ordinary skill in the art of the '801 patent would be a building reinforcement crew supervisor or a person in research and development. See *id.* The court determined that such a person would realize that putting a rotational force on the tie depicted in the '93 brochure would create a hole in the masonry of the same size as the tie, and, therefore, would prevent the tie from adhering to the masonry. See *id.* at 300, 52 USPQ2d at 1491. The court therefore concluded that the '93 brochure plainly conveyed to one of ordinary skill in the art, through the chevron symbol in figure 2 of the DryFix portion of the brochure, the absence of any symbol or words describing a rotational force, and statements in the brochure about the augering action of the tie, that an impacting force, and not a

rotational force, is applied to the tie. *See id.* The court thus concluded that the '93 brochure taught elements (8)--(10) of the patent claim. *See id.*

[10] The district court should not have constructed the hypothetical person of ordinary skill in the art by determining which persons working in the field of the invention are likely to be familiar with the relevant literature. Instead, the court should have considered the educational level of the inventor; the type of problems encountered in the art; the prior art solutions to those problems; the rapidity with which innovations are made; the sophistication of the technology, and the educational level of workers in the field. *See Custom Accessories*, 807 F.2d at 962, 1 USPQ2d at 1201.

Moreover, neither Helifix nor Blok-Lok presented evidence on how a person of ordinary skill in the art would understand the '93 brochure. The only evidence of record relating to the meaning of the brochure is the testimony of Mr. Paterson, who is both an author of the brochure and an inventor of the claimed method. However, Mr. Paterson testified mainly as to what he intended to convey by the terms used in the brochure; he did not testify as to how a person of ordinary skill in the art would understand the brochure. In any event, Mr. Paterson's testimony is conflicting. On the one hand, he stated that he intended the chevrons in the figure of step two of the DryFix portion of the brochure to indicate "a hammering action." *See* Tr. of Sept. 15, 1998 Hr'g, at 120-21. He also stated, however, that the '93 brochure does not state that the tie is inserted into the wythe with an impacting action, and that "most people" assume that the tool shown in the brochure places a rotating force on the tie. *See id.* at 125-26. In short, on the record before us, there is a genuine issue of material fact as to whether the '93 brochure discloses elements (8)--(10) of the patent claim.

[11] 3. "[E]ven if the claimed invention is disclosed in a printed publication, that disclosure will not suffice as prior art if it was not enabling." *Donohue*, 766 F.2d at 533, 226 USPQ at 621. Helifix argues that the '93 brochure does not enable a tool capable of practicing the method recited in the patent and that such a tool was *1348 not available at the time of the World of Concrete trade show. In making this argument, it points to the testimony of Mr. Paterson that Helifix had a difficult time developing a tool that would be useful at worksites, *see* Tr. of Sept. 15, 1998 Hr'g, at 26- 27, and that the invention still was in development at the time of the trade show, *see id.*

at 304-06. In addition, Helifix presented a July 29, 1994 document that, according to Helifix, demonstrates that Blok-Lok had returned 44 tools to Helifix because they were unsatisfactory.

[12] We conclude, on the record before us, that Blok-Lok failed to provide clear and convincing evidence that the '93 brochure enables a person of ordinary skill in the art to practice the claimed method. In particular, Blok-Lok did not present any evidence indicating that a person of ordinary skill in the art could have made or obtained a tool capable of being used in the claimed method without an undue amount of experimentation. *See In re Sheppard*, 52 C.C.P.A. 859, 339 F.2d 238, 242, 144 USPQ 42, 45 (1964) (reversing a rejection under 35 U.S.C. § 102(b) where the asserted prior art reference did not permit someone skilled in the art to possess the claimed invention without an undue amount of experimentation).

Although the '93 brochure does not describe the tool used to perform the DryFix method, the district court determined that such a tool was enabled because the Patent Office had issued a restriction requirement between the claimed method and the specific tool described in the specification. *See Helifix*, 26 F.Supp.2d at 300-301, 52 USPQ2d at 1491-92. The Patent Office can issue a restriction requirement if it finds that two or more inventions claimed in a patent application are "independent and distinct." 35 U.S.C. § 121 (1994). A process and apparatus (tool) for its practice can be restricted if either "the process *as claimed* can be practiced by another materially different apparatus or by hand" or "the apparatus *as claimed* can be used to practice another and materially different process." Man. Pat. Examining Proc. § 806.05(e) (7th ed.1998). In response to a restriction requirement, an applicant must elect one invention for examination. *See* 37 C.F.R. § 1.142(a) (1999). Claims to the non-elected invention(s) are withdrawn from consideration and must be canceled before the application is allowed to issue as a patent. *See* 37 C.F.R. § 1.142(b) (1999).

The grandparent of the '801 patent, Application Serial No. 08/204,465, was filed with claim 1 to a method of securing wythes with a helical tie, claim 2 to a tool for driving a helical tie into a wall, and claims 3 and 4 to helical ties. The Patent Office issued a restriction requirement between the method, tool, and tie claims. With respect to the method and tool claims, the Patent Office asserted that the tool is not required to insert the tie. Helifix did not present

any substantive arguments in response to this restriction requirement, and elected to pursue the method claim. In due course, the grandparent application was abandoned in favor of the parent application of the '801 patent, U.S. Application Serial No. 08/491,358. The parent application was filed with claim 1 to the method, claims 2 and 5-7 to the tool, and claims 3 and 4 to the helical tie. The Patent Office issued a restriction requirement along the same lines as the restriction requirement issued in the grandparent application, again asserting that the tool is not required to insert the tie. Helifix did not present any substantive arguments in response to this restriction requirement, and elected to pursue the tool claims. The '801 patent application was filed with the same claims as the parent application; however, the tool claims were canceled in a preliminary amendment, and the tie claims were canceled pursuant to a telephone conference with the examiner. Accordingly, the patent issued with only method claim 1.

Blok-Lok argued before the district court that the Patent Office's repeated assertions that the tool claimed in the patent applications is not required to insert the tie demonstrate that the '93 brochure need *1349 not describe the tool in order to enable the claimed method. The district court interpreted the restriction requirements as reflecting the Patent Office's determinations that other tools could be devised to practice the method of the '801 patent. *See Helifix*, 26 F.Supp.2d at 300-01, 52 USPQ2d at 1491-92. Both Blok-Lok and the district court, however, have read too much into the restriction requirements in this case. The restriction requirements at issue merely reflect the Patent Office's conclusions that claim 1, by its terms, is not limited to a method using the tool recited in claim 2. Accordingly, the restriction requirements between the method claimed in the '801 patent and the specific tool described in the specification in no way bear on the enablement of a different tool. Because Blok-Lok did not present any other evidence indicating that the '93 brochure enables the claimed method, on the record before us there is not clear and convincing evidence that the '93 brochure anticipates the claim of the '801 patent.

B. The on-sale bar

Under 35 U.S.C. § 102(b), a patent is invalid by reason of the on-sale bar if "the invention was ... on sale in this country ... more than one year prior to the date of application for the patent in the United

States." 35 U.S.C. § 102(b). In *Pfaff v. Wells Electronics, Inc.*, 525 U.S. 55, 119 S.Ct. 304, 142 L.Ed.2d 261 (1998), the Supreme Court held that the on-sale bar applies when two conditions are met before the critical date, which in this case is February 28, 1994. First, "the product must be the subject of a commercial offer for sale." *Id.* at 66, 119 S.Ct. at 311. Second, "the invention must be ready for patenting." *Id.* at 67, 119 S.Ct. at 312. The Court explained that the second condition may be satisfied in at least two ways: "by proof of reduction to practice before the critical date; or by proof that prior to the critical date the inventor had prepared drawings or other descriptions of the invention that were sufficiently specific to enable a person skilled in the art to practice the invention." *Id.* at 67, 119 S.Ct. at 312 (footnote omitted).

At the time the district court ruled on Blok-Lok's motion for summary judgment, the Supreme Court had not yet decided *Pfaff*. In concluding that the on-sale bar applied, the court started from the premise that the invention of the '801 patent was set forth in the '93 brochure. *See Helifix*, 26 F.Supp.2d at 302, 52 USPQ2d at 1493. Turning to the on-sale issue, the court stated that the '93 brochure provided "very strong circumstantial evidence that the 'DryFix' method was being made available for sale" in January of 1993 at the World of Concrete trade show. *Id.*, 52 USPQ2d at 1492. The court further stated that nothing in the '93 brochure indicated that the methods, tools, and apparatus described in the brochure were unavailable for sale, and it noted that a statement on the back of the brochure that "Helifix ties have been subjected to extensive testing in a wide range of materials" was an indication that the product that was the subject of the brochure was ready for sale. *Id.*, 52 USPQ2d at 1492-93. The court also noted that there was a warranty on the back of the brochure. *See id.*, 52 USPQ2d at 1493. The court reasoned that, if the brochure "did not constitute an offer to sell or at least an indication that the products and methods described were available for sale, this warranty would be very odd indeed." *Id.* Finally, the district court took note of the "admission of the Helifix employees who were present at the World of Concrete trade show that they distributed and displayed" the brochure. *Id.* Under all of these circumstances, the court concluded that Blok-Lok had made out a prima facie case that the method embodied in claim 1 of the '801 patent was on-sale for purposes of section 102(b). *See id.* at 302-03, 52 USPQ2d at 1493-94.

[13] If, in this case, there is a genuine issue of material fact relating to either of the two *Pfaff* conditions (first, the product or method of the invention being on-sale, and second, the invention being ready for *1350 patenting), summary judgment was not proper. We conclude that summary judgment was improper because there is a genuine issue of material fact as to whether the method claimed in the '801 patent was ready for patenting at the time of the January 1993 World of Concrete trade show.

As discussed above, there are genuine issues of material fact as to whether the '93 brochure discloses and enables each element of the method claimed in the '801 patent. Accordingly, for purposes of summary judgment, the '93 brochure cannot be relied upon as an enabling description of the invention. Moreover, in the district court, Blok-Lok failed to allege that any other item provided a description of the invention that was "sufficiently specific to enable a person skilled in the art to practice the invention." Blok-Lok's ability to prevail on the issue of whether the invention of the '801 patent was ready for patenting at the time of the trade show thus depends on its being able to establish that there are no genuine issues of material fact as to whether, at the time of the show, the method of claim 1 had been reduced to practice. This question turns on whether a tool capable of practicing the method had been developed in January of 1993. *See Robotic Vision*, 112 F.3d at 1165, 42 USPQ2d at 1624 (determining that a method that required a software program could not have been on-sale before a suitable software program had been developed even though the claims did not recite the software program).

We note first that reduction to practice of the claimed method does not require reduction to practice of the specific tool described in the '801 patent, but merely requires the development of any tool that meets the limitations recited in the claim. Thus, to establish that the method had been reduced to practice at the time of the World of Concrete trade show, Blok-Lok had to prove that Helifix had a tool into which a tie could be inserted and that would "impactingly drive the tie and rotatably permit the same to rotate as a helical bed is developed in the first wythe due to penetration by the tie." '801 pat., claim 1. On appeal, Blok-Lok points to the deposition testimony of Mr. Sweeney to the effect that a DryFix tool was available and on sale prior to the trade show. However, Mr. Sweeney did not testify about the characteristics of the DryFix tool in question. Accordingly, this testimony does not demonstrate that

the tool could meet the limitations recited in the '801 patent claim. Blok-Lok also cites letters that mention DryFix tools, but these letters similarly fail to indicate the characteristics and capabilities of the tools. Mr. Paterson testified in a deposition that there were many tools that had been called "DryFix tools" and that those tools may not have borne any resemblance to the final tool described in the patent. Thus, there is a genuine issue of material fact as to whether a tool meeting the claim limitations had been developed at the time of the trade show, and, therefore, whether the invention had been reduced to practice so that it could have been "on sale" at that time.

Because we conclude, on the record before us, that there are genuine issues of material fact with respect to the issues of anticipation and the on-sale bar, we vacate the grant of summary judgment of patent invalidity. In doing so, we do not imply that the record supports a determination that the '801 patent is valid, or that summary judgment of patent invalidity on a more fully developed record would be improper. We merely hold, that, on the record before the district court, Blok-Lok did not establish its entitlement to summary judgment.

III.

[14][15] We turn next to the denial of the preliminary injunction. To obtain the extraordinary relief of a preliminary injunction, the moving party must establish that: (1) it has a reasonable likelihood of succeeding on the merits; (2) it will suffer irreparable harm if the injunction is not granted; (3) the balance of hardships tips in its favor; and (4) an injunction would be *1351 consistent with the public interest. *See, e.g., Nutrition 21 v. United States*, 930 F.2d 867, 869, 18 USPQ2d 1347, 1348-49 (Fed.Cir.1991). To overturn the denial of a preliminary injunction, the patentee "must show not only that one or more of the factors relied on by the district court was clearly erroneous, but also that a denial of the preliminary relief sought would amount to an abuse of discretion upon reversal of an erroneous finding." *New England Braiding Co. v. A.W. Chesterton Co.*, 970 F.2d 878, 882, 23 USPQ2d 1622, 1625 (Fed.Cir.1992). Helifix has not met this burden.

[16][17] A patent holder seeking a preliminary injunction bears the burden of establishing a likelihood of success on the merits with respect to the patent's validity. *See Nutrition 21*, 930 F.2d at 869, 18 USPQ2d at 1349. The presumption of the patent's validity created by 35 U.S.C. § 282 (1994 & Supp. III

1997) "does not relieve a patentee who moves for a preliminary injunction from carrying the normal burden of demonstrating that it will likely succeed on all disputed liability issues at trial, even when the issue concerns the patent's validity." *New England Braiding*, 970 F.2d at 882, 23 USPQ2d at 1625. If the alleged infringer raises a substantial question concerning validity, *i.e.*, asserts an invalidity defense that the patentee cannot prove "lacks substantial merit," the preliminary injunction should not issue. *Genentech, Inc. v. Novo Nordisk*, 108 F.3d 1361, 1364, 42 USPQ2d 1001, 1003 (Fed.Cir.1997).

[18] The district court denied Helifix's preliminary injunction motion because it would have been inconsistent with its summary judgment of patent invalidity. *See Helifix*, 26 F.Supp.2d at 296. Having determined that the '801 patent was invalid, the district court presumably concluded that Helifix would not be able to establish a likelihood of success on the merits. The district court did not consider the issues of irreparable harm, the balance of hardships, or whether an injunction would be consistent with the public interest.

As discussed above, we conclude that the district court erred in granting Blok-Lok's motion for summary judgment. At the same time, we cannot say that, based upon the record before it, the district court abused its discretion in denying Helifix's request for a preliminary injunction. Because an alleged infringer must establish by clear and convincing evidence that a patent is invalid, Helifix has been able to show on appeal that genuine issues of material fact bar entry of summary judgment in favor of Blok-Lok. However, Helifix has not been able to establish that Blok-Lok's validity defense "lacks substantial merit."

Blok-Lok argues that the '801 patent is invalid by reason of anticipation and the on-sale bar. As noted above, Helifix acknowledges that the '93 brochure teaches elements (1)--(7) and (11) and (12) of claim 1 of the '801 patent. As far as elements (8)--(10) are concerned, the drawing of the brochure with a chevron and the equivocal testimony of Mr. Paterson make it a very open question as to whether those elements are or are not disclosed in the brochure. If they are, then claim 1 is anticipated by the brochure.

Turning to the on-sale bar question, we have vacated the district court's grant of summary judgment in favor of Blok-Lok because we have concluded that there are genuine issues of material fact relating to the second *Pfaff* condition: whether the invention of the

'801 patent was ready for patenting at the time it allegedly was on sale. We have come to that conclusion based largely upon the conflicting testimony of Mr. Sweeny, on behalf of Blok-Lok, and Mr. Paterson, on behalf of Helifix. In our analysis of the on-sale bar issue, we did not discuss the first *Pfaff* condition: whether the product at issue was the subject of a commercial offer for sale. We point out at this juncture, however, that the evidence on this point can fairly be said to be very much in equipoise. On the one hand, Mr. Paterson admitted that Helifix attended the World of Concrete trade *1352 show for "commercial purposes," Tr. of Sept. 15, 1998 Hr'g, at 130, and that the '93 brochure was distributed at the trade show to interest potential customers in purchasing the described products for use in the described methods. On the other hand, Mr. Paterson testified that the DryFix method was included in the brochure only "as a teaser," *id.* at 128, that the method "primarily promoted [at the trade show] was the dry chemical fix method," *id.* at 130, and that no price list was distributed at the trade show.

In sum, although the record before us does not support the district court's grant of summary judgment, it does raise a substantial question of patent invalidity. For that reason, we see no clear error in the finding of the district court that, in the face of Blok-Lok's challenge to the validity of the '801 patent, Helifix could not establish a likelihood of success on the merits. Under these circumstances, it was not necessary for the court to consider the remaining preliminary injunction factors. *See Reebok Int'l Ltd. v. J. Baker Inc.*, 32 F.3d 1552, 1556, 31 USPQ2d 1781, 1784 (Fed.Cir.1994) ("[A] district court may properly deny a motion for preliminary injunction simply based on the movant's failure to establish a reasonable likelihood of success on the merits."). We therefore find no abuse of discretion in the district court's denial of Helifix's request for a preliminary injunction.

CONCLUSION

We affirm the denial of Helifix's request for a preliminary injunction, vacate the interlocutory summary judgment of patent invalidity, and remand the case for further proceedings consistent with this opinion.

AFFIRMED-IN-PART, VACATED-IN-PART, AND REMANDED

COSTS

Each party shall bear its own costs.

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(Cite as: 208 F.3d 1339, *1352)

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END OF DOCUMENT

United States Court of Appeals,
Federal Circuit.

In re David C. PAULSEN.

No. 94-1012.

Aug. 3, 1994.

Patentee sought review of decision of United States Patent and Trademark Office Board of Patent Appeals and Interferences sustaining final rejection on reexamination of patent for portable laptop computer. The Court of Appeals, Lourie, Circuit Judge, held that: (1) specification of patent which did not clearly redefine term "computer" but merely described in general fashion features and capabilities desirable in portable computers did not remove "calculator" from definition of "computer"; (2) disclosure of box for calculator anticipated design of portable computer; and (3) patentee of portable computer failed to show that extensive evidence of commercial success was relevant to claims of obviousness and anticipation.

Affirmed.

West Headnotes

[1] Patents ☞ 314(5)
291k314(5)

[1] Patents ☞ 324.55(2)
291k324.55(2)

Whether patent claims are anticipated is question of fact subject to review under "clearly erroneous standard."

[2] Patents ☞ 64
291k64

[2] Patents ☞ 67.1
291k67.1

Rejection for anticipation of patent claim requires that each and every limitation of claimed invention be disclosed in single prior art reference and that reference be enabling and describe applicant's claimed invention sufficiently to have placed it in possession of person of ordinary skill in field of invention. 35 U.S.C.A. § 102(b).

[3] Patents ☞ 165(4)
291k165(4)

Preamble of patent claim does not limit scope of claim when it merely states purpose or intended use of invention.

[4] Patents ☞ 165(4)
291k165(4)

Terms appearing in preamble of patent claim may be deemed limitations of claim if they give meaning to claim and properly define invention.

[5] Patents ☞ 101(1)
291k101(1)

To determine effect of words in preamble on patent claim, review of patent in its entirety should be made to determine whether inventors intended language to represent additional structural limitation or mere introductory language.

[6] Patents ☞ 165(4)
291k165(4)

Term "computer" in preamble to patent for laptop computer was necessary limitation to claims in patent, and, thus, to anticipate claims, reference in patent for calculator had to disclose type of "computer."

[7] Patents ☞ 314(5)
291k314(5)

[7] Patents ☞ 324.5
291k324.5

Claim construction is legal question addressed de novo on review.

[8] Patents ☞ 167(1.1)
291k167(1.1)

Although it is proper to use specification to interpret what patentee meant by word or phrase in claim, "extraneous" limitation appearing in specification may not be added; "extraneous" refers to limitation read into claim for specification wholly apart from any need to interpret particular words or phrases in claim.

[9] Patents ☞ 101(2)
291k101(2)

[9] Patents ☞ 101(4)
291k101(4)

[9] Patents ☞ 168(2.1)
291k168(2.1)

When interpreting claim, words of claim are generally given their ordinary and accustomed meaning, unless it appears from specification or file history that they were used differently by inventor.

[10] Patents ☞ 101(2)
291k101(2)

For purposes of construction of patent claim, "computer" refers, at most fundamental level, to device capable of carrying out calculations, and, thus, term "computer" includes "calculator"; that calculator may be limited function computer rather than full function computer does not change its inclusion in definition of computer.

[11] Patents ☞ 101(5)
291k101(5)

Although inventor is free to define specific terms used to describe his invention, this must be done with reasonable clarity, deliberateness, and precision.

[12] Patents ☞ 101(2)
291k101(2)

If inventor chooses to be his own lexicographer and give terms uncommon meanings, he must set out uncommon definition in some manner within patent disclosure so as to given one of ordinary skill in art notice of the change.

[13] Patents ☞ 101(4)
291k101(4)

Specification of patent which did not clearly redefine term "computer" but merely described in general fashion features and capabilities desirable in portable computers did not remove "calculator" from definition of "computer" so that reference in patent for calculator met all limitations of applicant's portable computer claim.

[14] Patents ☞ 16(2)
291k16(2)

Prior art reference must be considered together with knowledge of one of ordinary skill in pertinent art.

[15] Patents ☞ 66(1.14)
291k66(1.14)

Disclosure of box for calculator anticipated design of applicant's portable computer, even though calculator patent did not specifically teach how to make and use portable calculator; one of ordinary skill in art was capable of providing circuitry necessary to make device operable for use as computer.

[16] Patents ☞ 314(5)
291k314(5)

[16] Patents ☞ 324.55(2)
291k324.55(2)

Obviousness is question of law to be determined from facts, and, thus, Board of Patent Appeal's conclusion of obviousness is reviewed for error as matter of law and underlying factual inquires are reviewed for clear error.

[17] Patents ☞ 314(5)
291k314(5)

[17] Patents ☞ 324.55(2)
291k324.55(2)

Whether prior art reference is "analogous" is fact question reviewed under "clearly erroneous standard."

[18] Patents ☞ 16(2)
291k16(2)

Prior art references may be considered "analogous" even if they reference to different fields of endeavor, if they are reasonably pertinent to particular problem with which inventor is involved.

[19] Patents ☞ 16(2)
291k16(2)

Cited references to hinges and latches used in varying items were "reasonably pertinent" to housing for portable computer, and supported finding that prior art references were "analogous"; problems encountered by inventors of portable computer were not unique to computers.

[20] Patents ☞ 31.1
291k31.1

When patentee offers objective evidence of nonobviousness, there must be sufficient relationship between that evidence and patented invention.

[21] Patents ☞ 32
291k32

Patentee seeking to provide objective evidence of nonobviousness has burden of presenting legally and factually sufficient connection between proven success and patented invention so that objective evidence will be considered in determination of nonobviousness.

[22] Patents ☞ 36.2(4)
291k36.2(4)

Applicant for patent for portable computer failed to show that extensive evidence of success of its laptop computer was relevant to claims of obviousness and anticipation, and, thus, evidence of commercial success carried no weight with respect to claims.

[23] Patents ☞ 324.5
291k324.5

In reviewing decision of Board of Patent Appeals, regarding obviousness, court carefully considers prior art of record and considers claimed invention as whole, without benefit of hindsight afforded by disclosure, to determine whether multiple cited prior art references suggest desirability of combination.

Patents ☞ 328(2)
291k328(2)

4,571,456. Rejected.

*1477 J. Georg Seka, Attorney, Townsend and Townsend Kourie and Crew, San Francisco, CA, argued, for appellant.

Harris Pitlick, Attorney, Com'r of Patents and Trademarks, Arlington, VA, argued, for appellee. With him on the brief was Fred E. McKelvey.

Before NIES, MICHEL, and LOURIE, Circuit Judges.

LOURIE, Circuit Judge.

AST Research, Inc., (AST) [FN1] appeals from the

July 23, 1993 decision of the United States Patent and Trademark Office (PTO) Board of Patent Appeals and Interferences sustaining the final rejection upon reexamination of claims 1-4, 6, 9-12, and 18-34 of U.S. Patent 4,571,456. We affirm.

FN1. AST Research is the current record owner of the patent in issue.

*1478 BACKGROUND

The '456 patent, entitled "Portable Computer," was issued to David C. Paulsen *et al.*, on February 18, 1986. The claims of the patent are directed to a portable computer contained within a compact metal case. [FN2] A salient feature of the claimed invention is its "clam shell" configuration, in which the computer's display housing is connected to the computer at its midsection by a hinge assembly that enables the display to swing from a closed, latched position for portability and protection to an open, erect position for viewing and operation. Computers consistent with this design are commonly referred to as "laptop" computers.

FN2. Claim 1 is the broadest claim in the '456 patent and is illustrative of the claimed invention. The claim reads as follows:

1. A portable computer constructed to be contained within an outer case for transport and to be erectable to a viewing and operating configuration for use, said computer comprising

a base,

a display housing,

a top cover, a rear cover,

hinge means for permitting swinging movement of the display housing about an axis of rotation adjacent the rear end of the display housing and from a closed and latched position of the display housing on the base to an erected position for viewing by an operator, and including stop means for holding the display housing at the desired angle for viewing,

the hinge means being located in a mid portion of the base and wherein the hinge means permit swinging movement of the display housing to an erected position in which the inner surface of the display housing is held in an upward and rearwardly inclined angle for viewing by an operator in front of the computer, and

including a keyboard in the portion of the base which is exposed by the movement of the display housing to the erected position.

On April 27, 1990, and subsequently on June 12, 1990 and October 22, 1990, requests were filed in the PTO for reexamination of the '456 patent. See 35 U.S.C. § 302 (1988). The requests were consolidated into a single proceeding for the reexamination of claims 1 through 34. [FN3] On August 9, 1991, the examiner issued a final office action in the reexamination rejecting claims 1-4, 6, 7, 9-12, and 18-34. Independent claims 1 and 18 were rejected under 35 U.S.C. § 102(b) (1988) as being anticipated by Japanese Application 47-14961 to Yokoyama. Additionally, claims 1-4, 6, 7, 9-12, and 18-34 were rejected under 35 U.S.C. § 103 (1988) as being obvious over the Yokoyama reference in view of other prior art. [FN4]

FN3. As originally issued, the '456 patent contained claims 1 through 19. New claims 20 through 34 were subsequently added during reexamination.

FN4. Claims 5, 8, and 13-17 were allowed by the examiner in the reexamination proceeding. These claims are not at issue in this appeal.

On appeal, the Board affirmed the examiner's rejections except as to claim 7. In sustaining the rejections of claims 1 and 18, the Board rejected the appellant's [FN5] contention that Yokoyama is not a proper prior art reference under sections 102 or 103. The Board concluded that although Yokoyama discloses a calculator, a calculator is a type of computer. The Board also rejected the appellant's argument that Yokoyama is a non-enabling reference. Respecting the § 103 rejection of claims 2-4, 6, 9-12, and 19-34, the Board adopted the examiner's determination that the cited prior art would have suggested the claimed subject matter to a person of ordinary skill in the art. [FN6]

FN5. The party in interest during the reexamination proceeding was Grid Systems Corp., the original assignee of the '456 patent.

FN6. Because the Board adopted the examiner's position as its own, we shall refer to the examiner's findings and conclusions as those of the Board.

AST, the present assignee of the '456 patent, now appeals from the Board's decision.

DISCUSSION

Claims 1 and 18

[1][2] We first address AST's challenge to the Board's determination that claims 1 and 18 are anticipated by the Yokoyama reference. Anticipation is a question of fact subject to review under the "clearly erroneous" standard. *In re King*, 801 F.2d 1324, 1326, 231 USPQ 136, 138 (Fed.Cir.1986). A rejection for anticipation under section 102 requires that each and every limitation of the claimed invention be disclosed in a single *1479 prior art reference. *In re Spada*, 911 F.2d 705, 708, 15 USPQ2d 1655, 1657 (Fed.Cir.1990). In addition, the reference must be enabling and describe the applicant's claimed invention sufficiently to have placed it in possession of a person of ordinary skill in the field of the invention. *Id.*

The Yokoyama reference discloses a desktop calculator contained within a housing having the form of a portable attache case. The front half of the case consists of a lid that is hinged at the midsection of the case. Connected to the inside of the lid is a display which is able to be viewed when the lid is opened to a vertical position. A keyboard is also exposed for operation when the lid is opened. When the device is to be transported, the lid is closed and latched to protect the display and the keyboard. Notwithstanding that Yokoyama discloses a device meeting the express limitations set out in claims 1 and 18 relating to a base, a display housing, a keyboard, etc., AST maintains that the claims are not anticipated by Yokoyama because that reference discloses a calculator, not a computer. [FN7] AST contends that the Board erred in construing the term "computer" broadly to encompass a calculator such as that disclosed in Yokoyama.

FN7. AST does not dispute that all the limitations of claims 1 and 18 are otherwise described in the Yokoyama reference.

[3][4][5] We note at the outset that the term "computer" is found in the preamble of the claims at issue. The preamble of a claim does not limit the scope of the claim when it merely states a purpose or intended use of the invention. See *DeGeorge v. Bernier*, 768 F.2d 1318, 1322 n. 3, 226 USPQ 758, 761 n. 3 (Fed.Cir.1985). However, terms appearing in a preamble may be deemed limitations of a claim when they "give meaning to the claim and properly define the invention." *Gerber Garment Technology, Inc. v. Lectra Sys., Inc.*, 916 F.2d 683, 688, 16 USPQ2d 1436, 1441 (Fed.Cir.1990) (quoting *Perkin-*

Elmer Corp. v. Computervision Corp., 732 F.2d 888, 896, 221 USPQ 669, 675 (Fed.Cir.), *cert. denied*, 469 U.S. 857, 105 S.Ct. 187, 83 L.Ed.2d 120 (1984)). Although no "litmus test" exists as to what effect should be accorded to words contained in a preamble, review of a patent in its entirety should be made to determine whether the inventors intended such language to represent an additional structural limitation or mere introductory language. *Corning Glass Works v. Sumitomo Elec. U.S.A., Inc.*, 868 F.2d 1251, 1257, 9 USPQ2d 1962, 1966 (Fed.Cir.1989); *In re Stencel*, 828 F.2d 751, 754, 4 USPQ2d 1071, 1073 (Fed.Cir.1987).

[6][7] In the instant case, review of the '456 patent as a whole reveals that the term "computer" is one that "breathes life and meaning into the claims and, hence, is a necessary limitation to them." *Loctite Corp. v. Ultraseal Ltd.*, 781 F.2d 861, 866, 228 USPQ 90, 92 (Fed.Cir.1984). Thus, to anticipate claims 1 and 18, the Yokoyama reference must disclose a type of "computer." See *Diversitech Corp. v. Century Steps, Inc.*, 850 F.2d 675, 678, 7 USPQ2d 1315, 1317 (Fed.Cir.1988) (prior art reference must contain preamble limitations). However, to properly compare Yokoyama with the claims at issue, we must construe the term "computer" to ascertain its scope and meaning. Claim construction is a legal question that we address *de novo*. See *Carroll Touch, Inc. v. Electro Mechanical Sys., Inc.*, 15 F.3d 1573, 1577, 27 USPQ2d 1836, 1839 (Fed.Cir.1993).

Pursuant to its practice of giving claims in a reexamination their broadest reasonable interpretation consistent with the specification, see *In re Etter*, 756 F.2d 852, 858, 225 USPQ 1, 5 (Fed.Cir.1985), the Board construed the term "computer" to include a calculator. The Board's interpretation was supported by authoritative lexicographic sources that confirmed that a calculator is considered to be a particular type of computer by those of ordinary skill in the art. AST alleges that the Board's interpretation was erroneous because it ignores the inventors' own definition of "computer." AST asserts that the specification plainly indicates that the inventors intended to limit the claimed invention to a device having a display with graphics and text capability, sufficient data processing capacity, communication ports, a telephone connection, *1480 etc., features normally absent in a calculator.

[8][9] In an effort to avoid the anticipating disclosure of Yokoyama, AST engages in a *post hoc* attempt to redefine the claimed invention by impermissibly

incorporating language appearing in the specification into the claims. Although "it is entirely proper to use the specification to interpret what the patentee meant by a word or phrase in the claim, ... this is not to be confused with adding an extraneous limitation appearing in the specification, which is improper. By 'extraneous,' we mean a limitation read into a claim from the specification wholly apart from any need to interpret ... particular words or phrases in the claim." *E.I. du Pont de Nemours & Co. v. Phillips Petroleum Co.*, 849 F.2d 1430, 1433, 7 USPQ2d 1129, 1131 (Fed.Cir.), *cert. denied*, 488 U.S. 986, 109 S.Ct. 542, 102 L.Ed.2d 572 (1988). Moreover, when interpreting a claim, words of the claim are generally given their ordinary and accustomed meaning, unless it appears from the specification or the file history that they were used differently by the inventor. See *Carroll Touch*, 15 F.3d at 1577, 27 USPQ2d at 1840.

[10] The term "computer" is not associated with any one fixed or rigid meaning, as confirmed by the fact that it is subject to numerous definitions and is used to describe a variety of devices with varying degrees of sophistication and complexity. However, despite the lack of any standard definition for this ubiquitous term, it is commonly understood by those skilled in the art that "at the most fundamental level, a device is a computer if it is capable of carrying out calculations." *National Advanced Sys., Inc. v. United States*, 26 F.3d 1107, 1111-12 (Fed.Cir.1994). AST cannot dispute that a calculator falls within that basic definition. That a calculator may be a "limited function" computer as opposed to a "full function" computer does not change the fact that it is nonetheless a computer. [FN8]

FN8. We are unpersuaded by the declarations submitted by the appellants which draw a distinction between a calculator and a computer based on comparative functions and capabilities. As the Board correctly concluded, such extrinsic evidence fails to rebut the premise that a calculator is a computer, albeit one with limited functions.

[11][12][13] Although an inventor is indeed free to define the specific terms used to describe his or her invention, this must be done with reasonable clarity, deliberateness, and precision. "Where an inventor chooses to be his own lexicographer and to give terms uncommon meanings, he must set out his uncommon definition in some manner within the patent disclosure" so as to give one of ordinary skill in the

art notice of the change. See *Intellicall, Inc., v. Phonometrics, Inc.*, 952 F.2d 1384, 1387-88, 21 USPQ2d 1383, 1386 (Fed.Cir.1992). Here, the specification of the '456 patent does not clearly redefine the term "computer" such that one of ordinary skill in the art would deem it to be different from its common meaning. The specification merely describes in a general fashion certain features and capabilities desirable in a portable computer. This description, however, is far from establishing a specialized definition restricting the claimed invention to a computer having a specific set of characteristics and capabilities.

We conclude that the Board did not clearly err in determining that the Yokoyama reference meets all the limitations of claims 1 and 18 as properly construed, including the "computer" limitation.

[14][15] Alternatively, AST asserts that Yokoyama does not anticipate claims 1 and 18 because it is not enabling. AST argues that Yokoyama only discloses a box for a calculator and thus does not teach how to make and use a portable calculator. This argument, however, fails to recognize that a prior art reference must be "considered together with the knowledge of one of ordinary skill in the pertinent art." *In re Samour*, 571 F.2d 559, 562, 197 USPQ 1, 3-4 (CCPA 1978); see also *DeGeorge*, 768 F.2d at 1323, 226 USPQ at 762 (Fed.Cir.1985) (a reference "need not, however, explain every detail since [it] is speaking to those skilled in the art"). As the Board found below, the level of skill to which Yokoyama is addressed was "quite advanced" at the time the '456 patent was filed and that "one of ordinary skill in the art *1481 certainly was capable of providing the circuitry necessary to make the device operable for use as a computer." We discern no clear error in the Board's findings and conclude as a matter of law that Yokoyama is sufficiently enabling to serve as a section 102(b) reference. [FN9] See *Gould v. Quigg*, 822 F.2d 1074, 1077, 3 USPQ2d 1302, 1303-04 (Fed.Cir.1987) (ultimate issue of enablement is one of law based on underlying factual findings).

FN9. We also note that under the enablement standard that AST would have us apply to Yokoyama, the '456 patent itself would be non-enabling. The '456 patent similarly relies on the knowledge and skill of those skilled in the art. If detailed disclosure regarding implementation of known electronic and mechanical components necessary to build a computer were essential for an anticipating reference,

then the disclosure in the '456 patent would also fail to satisfy the enablement requirement. See *Constant v. Advanced Micro-Devices, Inc.*, 848 F.2d 1560, 1569, 7 USPQ2d 1057, 1063 (Fed.Cir.1988).

Accordingly, we affirm the Board's rejection of claims 1 and 18 as being anticipated by Yokoyama. As a result, we need not review the obviousness rejections of these claims. See *In re Baxter Travenol Labs*, 952 F.2d 388, 391, 21 USPQ2d 1281, 1285 (Fed.Cir.1992) ("[S]ince anticipation is the ultimate of obviousness, the subject matter of these claims is necessarily obvious and we need not consider them further."). Additionally, because AST does not argue the patentability of claims 9-12 and 19-27 separately from that of claims 1 and 18, the appeal of these claims also fails. See *In re Albrecht*, 579 F.2d 92, 93-94, 198 USPQ 208, 209 (CCPA 1978); *In re King*, 801 F.2d at 1325, 231 USPQ at 137.

Claims 2-4, 6, and 28-34

[16] Next, AST challenges the Board's rejection of claims 2-4, 6, and 28-34 on the ground of obviousness. Obviousness is a question of law to be determined from the facts. *In re Fine*, 837 F.2d 1071, 1073, 5 USPQ2d 1596, 1598 (Fed.Cir.1988). Thus, the Board's conclusion of obviousness is reviewed for error as a matter of law, *In re De Blauwe*, 736 F.2d 699, 703, 222 USPQ 191, 195 (Fed.Cir.1984), and underlying factual inquiries are reviewed for clear error, *In re Caveney*, 761 F.2d 671, 674, 226 USPQ 1, 3 (Fed.Cir.1985).

1. Non-Analogous Art

AST argues that claims 2, 6, and 28-34, which add particular features to the hinge and latch means of the display housing, [FN10] were erroneously rejected over non-analogous references directed to hinges and latches as used in a desktop telephone directory, a piano lid, a kitchen cabinet, a washing machine cabinet, a wooden furniture cabinet, or a two-part housing for storing audio cassettes. AST maintains that because the references pertain to fields of endeavor entirely unrelated to computers and are not pertinent to the problems faced by the present inventors, they do not render the claims obvious. It argues that the cited references, dealing with such articles as cabinets and washing machines, do not deal with the particular environment presented in portable computers. This argument rests on too narrow a view of what prior art is pertinent to the invention here.

FN10. Generally, claims 2 and 6, both depending from claim 1, recite torsion spring means and recessed latch means for the display housing, respectively. Claims 28, 29, 30, 33, and 34 are directed to a portable computer having concealed hinges, and claims 31 and 32 recite recessed latch means and retractable legs, respectively.

[17][18][19] Whether a prior art reference is "analogous" is a fact question that we review under the "clearly erroneous" standard. *In re Clay*, 966 F.2d 656, 658, 23 USPQ2d 1058, 1060 (Fed.Cir.1992). Although there is little dispute that the prior art references cited here (other than Yokoyama) are not within the same field of endeavor as computers, such references may still be analogous if they are "reasonably pertinent to the particular problem with which the inventor is involved." *Id.*; see also *Heidelberger Druckmaschinen AG v. Hantscho Commercial Prods., Inc.*, 21 F.3d 1068, 1072, 30 USPQ2d 1377, 1379 (Fed.Cir.1994). The problems encountered by the inventors of the '456 patent were problems that were not unique to portable computers. They concerned how to connect and secure the computer's display housing to the computer while meeting certain size constraints *1482 and functional requirements. The prior art cited by the examiner discloses various means of connecting a cover (or lid) to a device so that the cover is free to swing radially along the connection axis, as well as means of securing the cover in an open or closed position. We agree with the Board that given the nature of the problems confronted by the inventors, one of ordinary skill in the art "would have consulted the mechanical arts for housings, hinges, latches, springs, etc." Thus, the cited references are "reasonably pertinent" and we therefore conclude that the Board's finding that the references are analogous was not clearly erroneous.

2. Secondary Considerations

In support of its contention that the Board erred in rejecting claims 2-4, 6, and 28-34 as obvious, AST points to evidence of commercial success, copying, and professional recognition of Grid laptop computers, devices covered by claims 1 and 18 of the '456 patent. For example, from the introduction of their laptop computers in 1983 to the end of 1990, Grid enjoyed cumulative sales of approximately \$489 million in addition to licensing royalties of \$7.5 million. Grid also received several design awards and exceptional praise from the industry press.

[20][21][22] Although such evidence is indeed impressive, AST has not shown that it is relevant to the claims at issue and thus entitled to weight. When a patentee offers objective evidence of nonobviousness, there must be a sufficient relationship between that evidence and the patented invention. See *Demaco Corp. v. F. Von Langsdorff Licensing Ltd.*, 851 F.2d 1387, 1392, 7 USPQ2d 1222, 1226 (Fed.Cir.), *cert. denied*, 488 U.S. 956, 109 S.Ct. 395, 102 L.Ed.2d 383 (1988). "The term 'nexus' is used, in this context, to designate a legally and factually sufficient connection between the proven success and the patented invention, such that the objective evidence should be considered in the determination of nonobviousness. The burden of proof as to this connection or nexus resides with the patentee." *Id.* Here, AST has failed to carry its burden.

AST limits its argument respecting the evidence adduced to demonstrate nonobviousness to laptop computers covered by claims 1 and 18, claims which we have previously concluded are unpatentable under section 102. [FN11] AST has not established that the commercial success, copying, and professional recognition experienced by Grid laptop computers are probative of the nonobviousness of the inventions of claims 2-4, 6, and 28-34. It has not been shown that such evidence is relevant to a computer within the scope of these claims, *i.e.*, that it is attributable to the inventions of these claims, rather than to extraneous factors such as advertising and marketing or to the features possessed by the computers of claims 1 and 18. Because AST has failed to establish a sufficient legal relationship between the purported evidence of nonobviousness and the claimed invention, evidence pertinent to claims 1 and 18 therefore carries no weight with respect to claims 2-4, 6, and 28-34.

FN11. The only evidence connecting the purported commercial success and professional praise with the '456 patent is the declaration of J. Georg Seka, counsel for AST, stating that claims 1 and 18 cover the Grid "Compass" laptop computer and certain models made by Toshiba. Even assuming that a nexus exists as to those two claims, evidence of nonobviousness is irrelevant for patentability purposes when an invention is anticipated under section 102.

3. Obviousness Generally

[23] Beyond what we have said respecting the

applicability of the cited prior art and the asserted evidence of secondary considerations, we have considered AST's basic contention that the prior art does not suggest the invention of the rejected claims and view it to be unpersuasive. In reviewing the Board's obviousness conclusions, we have been guided by the well-settled principles that the claimed invention must be considered as a whole, multiple cited prior art references must suggest the desirability of being combined, and the references must be viewed without the benefit of hindsight afforded by the disclosure. See *Hodosh v. Block Drug Co., Inc.*, 786 F.2d 1136, 1143 n. 5, 229 USPQ 182, 187 n. 5 (Fed.Cir.), cert. denied, 479 U.S. 827, 107 S.Ct. 106, 93 *1483 L.Ed.2d 55 (1986). We have carefully reviewed the prior art of record and conclude that the Board did not err in rejecting claims 2-4, 6, and

28-34 as having been obvious.

CONCLUSION

The Board did not clearly err in rejecting claims 1 and 18 as being anticipated by the Yokoyama reference. Consequently, the rejection of claims 9-12 and 19-27 must also be affirmed. The Board did not err in rejecting claims 2-4, 6, and 28-34 as being obvious over Yokoyama and other prior art. Accordingly, we affirm the decision of the Board.

AFFIRMED.

30 F.3d 1475, 63 USLW 2183, 31 U.S.P.Q.2d 1671

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United States Court of Appeals,
Federal Circuit.

In re Gilbert P. HYATT

No. 99-1182.

May 12, 2000

Applicant for patent relating to certain systems, including illumination systems, sought review of Board of Patent Appeals and Interferences decision upholding patent examiner's rejection of claims. The Court of Appeals, Bryson, Circuit Judge, held that: (1) Board adequately explained its reasoning for rejecting disputed claims, and (2) application claims were anticipated by prior art patent.

Affirmed.

West Headnotes

[1] Patents ☞ 114.22
291k114.22

Board of Patent Appeals and Interferences adequately explained its reasoning for rejecting disputed claims in patent application based on anticipation, where patent examiner explained to Board which aspects of prior art patent anticipated each limitation of one claim, Board adopted examiner's analysis with additional remarks, and, with respect to remaining claims, examiner explained that those claims were not materially different from claim explicitly addressed and that their patentability would stand or fall with other claim.

[2] Patents ☞ 314(5)
291k314(5)

Anticipation of patent claims is a question of fact.

[3] Patents ☞ 113(6)
291k113(6)

Court of Appeals upholds decisions of the Board of Patent Appeals and Interferences on factual matters if there is substantial evidence in the record to support the Board's findings.

[4] Patents ☞ 101(4)
291k101(4)

During patent examination proceedings, claims are given their broadest reasonable interpretation consistent with the specification, which serves the public interest by reducing the possibility that claims, finally allowed, will be given broader scope than is justified, and is not unfair to applicants, because before a patent is granted, the claims are readily amended as part of the examination process.

[5] Patents ☞ 66(1.20)
291k66(1.20)

Device detector limitation in patent application relating to correction of defects or faults in certain systems, including illumination systems, included detection of the condition of a device, such as its illumination properties, and an improper illumination condition could be considered a fault or defect, so that limitation was anticipated by optical measuring aspect of prior art patent, which detected state of various optical properties of each device in an array of devices and generated signals reflecting state of those properties.

[6] Patents ☞ 66(1.20)
291k66(1.20)

"Intensity signal generator" or "display signal generator" limitation in patent application relating to correction of defects or faults in certain systems, including illumination systems, was anticipated by correction-value determining device of prior art patent, which generated correction signals based in part on signals received from optical measuring device.

[7] Patents ☞ 66(1.20)
291k66(1.20)

Limitation in claims of patent application relating to correction of defects or faults in certain systems, including illumination systems, which called for sharing generator that generated shared intensity signals or shared illumination intensity display signals, required only that signal be available to more than one of the correction circuits, even if only one of the correction circuits transmitted signal to its corresponding display device, and limitation was thus anticipated by prior art patent.

[8] Patents ☞ 111

291k111

Where Board of Patent Appeals and Interferences, in its decision on patent applicant's first request for rehearing, did not alter its position with respect to its anticipation ruling on certain claims, applicant was not entitled to file a second request for rehearing on that issue. 37 C.F.R. § 1.197(b).

[9] Patents ☞ 66(1.20)
291k66(1.20)

Limitation in patent application relating to correction of defects or faults in certain systems, including illumination systems, which referred to "degraded device memory storing degraded liquid crystal device condition signals to identify a degraded liquid crystal device," was anticipated by prior art patent in which degraded device information, which was the output of the device detector, was stored in memory that was found in the prior art patent's correction-value determining device.

Patents ☞ 328(2)
291k328(2)

4,825,201. Cited As Prior Art.

*1369 Raphael V. Lupo. McDermott, Will & Emery, of Washington, DC, argued for appellant. Of counsel was Paul Devinsky.

John M. Whealan, Acting Deputy Solicitor, Office of the Solicitor, of Arlington, Virginia, argued for appellee, Commissioner of Patents and Trademarks. With him on the brief were Albin F. Drost, Acting Solicitor, and Raymond T. Chen, Associate Solicitor. Of counsel was Nancy C. Slutter.

Before LOURIE, RADER, and BRYSON, Circuit Judges.

BRYSON, Circuit Judge.

This is an appeal from a decision of the Patent and Trademark Office's Board of Patent Appeals and Interferences. The appellant, Gilbert P. Hyatt, seeks review of the Board's decision upholding a patent examiner's action rejecting several claims of Mr. Hyatt's patent application. We affirm the decision of the Board.

I

Mr. Hyatt's application addresses the problem of

defects or faults in certain systems, including illumination systems. In an illumination system using display panels with many display devices, the invention compensates for a defect in one of the devices by using the surrounding devices to generate the intensity that was supposed to be generated by the defective device. Mr. Hyatt refers to that aspect of his invention as "device detection and intensity sharing." According to the written description, the invention produces an acceptable image "even when 10% to 50% or more" of the devices are faulty.

The four claims at issue are claims 1, 8, 24, and 30. The claims read as follows:

1. A sharing system comprising:
an intensity signal generator generating input intensity signals;
a device detector generating device condition signals;
a sharing generator coupled to the intensity signal generator and to the device detector and generating shared intensity signals in response to the input intensity signals and in response to the device condition signals; and a plurality of devices coupled to the sharing generator and excited by the shared intensity signals.
8. An array system comprising:
an intensity signal generator generating input intensity signals;
a device detector generating device condition signals;
a sharing generator coupled to the intensity signal generator and to the device detector and generating shared intensity signals in response to the input intensity signals and in response to the device condition signals;
and an array of devices coupled to the sharing generator and excited by the shared intensity signals.
24. A display system comprising:
a display signal generator generating input illumination intensity display signals;
a fault detector generating fault condition signals;
a sharing generator coupled to the display signal generator and to the fault detector and generating shared illumination intensity display signals in response to the input illumination intensity display signals and in response to the fault condition signals; and
a plurality of display devices coupled to the sharing generator and excited by the shared illumination intensity display signals.
30. A liquid crystal display system comprising:
a display signal generator generating input

illumination intensity display signals;
*1370 a degraded device memory storing degraded liquid crystal device condition signals to identify a degraded liquid crystal device;
a sharing generator coupled to the display signal generator and to the degraded device and generating shared illumination intensity display signals in response to the input illumination intensity display signals and in response to the degraded liquid crystal device condition signals;
and
a plurality of liquid crystal display devices coupled to the sharing generator and excited by the shared illumination intensity display signals.

In reviewing the prior art, the examiner focused on U.S. Patent No. 4,825,201 to Watanabe et al., which discloses a display error detection and correction system. The examiner found many of the claims of the application distinguishable over Watanabe because they explicitly recite limitations "directed to changing the intensity of devices adjacent to the defective device to compensate for the intensity of the defective device." The examiner, however, rejected the four claims at issue in this appeal on the ground of anticipation, finding that because they do not expressly recite the limitations of changing the intensity of adjacent devices to correct for a defect, they are not distinguishable over the second embodiment disclosed in Watanabe.

The Watanabe patent discloses an "optical measuring device" positioned in front of an array of display units. The optical measuring device measures various optical properties of the display units, including brightness and color tone. The optical measuring device generates a signal that is sent to the "correction-value determining device," which calculates both the position of the display unit that needs correction and the "correction value" to be applied to that display unit. The correction-value determining device includes a central processing unit, a read-only memory, and a random access memory. Based on the signal from the optical measuring device and on stored data for running the program, the correction-value determining device generates a "correction signal" that is sent to a controller, which in turn transmits a correction data signal to correction circuits connected to the display units. Although the correction data signal is available to all of the correction circuits, the controller enables only the particular correction circuit corresponding to the display unit that needs correction. Thus, the correction data from the controller is transmitted

through only the correction circuit corresponding to the display unit that needs correcting.

On appeal, the Board of Patent Appeals and Interferences upheld the rejections. The Board adopted the examiner's findings that various features in Watanabe anticipate the claimed intensity signal generator, the claimed device detector, the claimed sharing generator, and the claimed plurality of devices. With respect to the "sharing" limitation, the Board found that Watanabe's correction data signal is shared by all of the display devices -- and thus meets the sharing limitation found in all four claims -- because it is available to all of the correction circuits, even though it is transmitted through only that correction circuit corresponding to the display unit that needs correction. The Board agreed with the examiner in rejecting Mr. Hyatt's argument that the sharing limitation in each of the rejected claims incorporates the requirement for changing the intensity of the devices adjacent to the defective device in order to compensate for the intensity of the defective device. Because it found that the correction data signal in Watanabe is available to all of the correction circuits at the same time, the Board found that Watanabe discloses the "sharing" limitation of all four rejected claims when that limitation is given its broadest reasonable interpretation consistent with the specification.

*1371 II

A

[1] In challenging the Board's decision, Mr. Hyatt first argues that the examiner and the Board failed to analyze the claims on an element-by-element and claim-by-claim basis. That failure, according to Mr. Hyatt, renders the Board's decision inadequate under our holding in *Gechter v. Davidson*, 116 F.3d 1454, 43 USPQ2d 1030 (Fed.Cir.1997).

The central thrust of *Gechter* is that the Board must explain the basis for its rulings sufficiently to enable meaningful judicial review. *Gechter*, 116 F.3d at 1458, 43 USPQ2d at 1033. As we stated, "For an appellate court to fulfill its role of judicial review, it must have a clear understanding of the grounds for the decision being reviewed," which requires that "[n]ecessary findings must be expressed with sufficient particularity to enable [the] court, without resort to speculation, to understand the reasoning of the Board, and to determine whether it applied the law correctly and whether the evidence supported the underlying and ultimate fact findings." *Id.* at 1457,

116 F.3d 1454, 43 USPQ2d at 1033. Under that standard, the court in *Gechter* concluded that it could not properly review the Board's decision to reject the claim at issue for anticipation because the Board's decision addressed only one of several limitations in the claim. In addition, the court found that it was not clear from the Board's discussion what construction it had placed on the one limitation that it did discuss. *Id.* at 1459-60, 116 F.3d 1454, 43 USPQ2d at 1035.

In this case, the Board addressed the limitations of each claim in a manner adequate to permit judicial review. In particular, in his answer to Mr. Hyatt's appeal before the Board of Patent Appeals and Interferences, the examiner explained which aspects of Watanabe anticipate each of the limitations of claim 1. With respect to the critical terms "sharing" and "shared intensity signals," the examiner pointed out that "there is no structural recitation providing patentably distinguishing language regarding the disclosed feature of adjusting the brightness of adjacent devices to compensate for the brightness of a defective device." That statement implicitly construes the "sharing" limitation to embrace its broadest common meaning -- to "undergo in common." *Webster's New International Dictionary* 2087 (3d ed.1968). The Board adopted the examiner's analysis with additional remarks explaining why the "sharing" limitation was found in Watanabe. With respect to the remaining claims, the examiner explained that those claims are not materially different from claim 1 and that the patentability of those claims stands or falls with claim 1.

While the explanation given by the examiner and the Board could have been more expansive, particularly with regard to claims 8, 24, and 30, their analysis is sufficient to apprise us of the basis on which they rejected each of the disputed claims. Accordingly, we decline the invitation to vacate the Board's decision on the ground that it failed to explain its reasoning sufficiently to enable us to review its rulings.

B

On the merits, Mr. Hyatt argues that the examiner and the Board were incorrect in finding that the Watanabe reference anticipates the four rejected claims. At its core, Mr. Hyatt's argument is that rejected claims 1, 8, 24, and 30 are distinguishable over Watanabe because they are directed to changing the intensity of devices surrounding the defective

device in order to compensate for the intensity of the defective device.

[2][3][4] Three general and undisputed propositions guide our review of the Board's decision. First, anticipation is a question of fact. *See Bischoff v. Wethered*, 76 U.S. (9 Wall.) 812, 814-15, 19 L.Ed. 829 (1869); *In re Schreiber*, 128 F.3d 1473, 1477, 44 USPQ2d 1429, 1431 (Fed.Cir.*1372 1997). Second, we uphold decisions of the Board on factual matters if there is substantial evidence in the record to support the Board's findings. *See In re Gartside*, 203 F.3d 1305, 1315, 53 USPQ2d 1769, 1775 (Fed.Cir.2000). Third, during examination proceedings, claims are given their broadest reasonable interpretation consistent with the specification. *See In re Graves*, 69 F.3d 1147, 1152, 36 USPQ2d 1697, 1701 (Fed.Cir.1995); *In re Etter*, 756 F.2d 852, 858, 225 USPQ 1, 5 (Fed.Cir.1985) (en banc). That last proposition "serves the public interest by reducing the possibility that claims, finally allowed, will be given broader scope than is justified," *In re Yamamoto*, 740 F.2d 1569, 1571, 222 USPQ 934, 936 (Fed.Cir.1984), and it is not unfair to applicants, because "before a patent is granted the claims are readily amended as part of the examination process," *Burlington Indus., Inc. v. Quigg*, 822 F.2d 1581, 1583, 3 USPQ2d 1436, 1438 (Fed.Cir.1987). Operating in conjunction as they do in this case, these three propositions make the applicant's task on appeal to this court a daunting one.

[5] We agree with the Board that most of the elements of the four disputed claims are clearly anticipated by Watanabe. First, the optical measuring device disclosed in Watanabe detects the state of various optical properties of each of the devices in an array of devices and generates signals that reflect the state of those properties. Mr. Hyatt argues that the "device detector" limitation requires the sensing of a defective or faulty panel, not simply the measurement of the illumination properties of a device. The broadest reasonable interpretation of the claim limitation, however, includes the detection of the condition of a device, such as its illumination properties. In addition, an improper illumination condition can be considered a fault or defect. Thus, the optical measuring aspect of Watanabe anticipates the "device detector [or fault detector] generating device [or fault] condition signals."

[6] Second, the correction-value determining device of Watanabe anticipates the "intensity signal generator" or "display signal generator" recited as the first limitation in each of the disputed claims. The

correction-value determining device generates correction signals based in part on signals received from the optical measuring device. Under a properly broad reading of "intensity" and "display" signals, the correction signal meets the "generates input intensity signals" or "input illumination intensity display signals" limitation further required by each claim.

Third, Watanabe discloses an array or plurality of devices, which can include liquid crystal display panels, that are excited by the correction signals originating in the controller. Except for the references to the "sharing" generator and the "shared" intensity signals, Watanabe thus plainly anticipates the fourth limitation of the four disputed claims as well.

[7] The difficult question in the case is whether Watanabe anticipates the third limitation of each claim, which calls for a "sharing generator" that "generat[es] shared intensity signals" (or "shared illumination intensity display signals"). Mr. Hyatt argues that in order to be "shared," the intensity signals or illumination intensity display signals must be received by more than one display device at the same time. The examiner and the Board, on the other hand, interpreted the term "shared" to require only that the intensity signal (or illumination intensity display signal) be available to more than one of the correction circuits, even if only one of the correction circuits transmits the signal to its corresponding display device.

In light of the rule that the Board must give claims their broadest reasonable construction, we uphold the Board's decision with respect to the definition of the terms "shared" and "sharing" in Mr. Hyatt's application. The specification, although lengthy, contains no definition of "shared" or "sharing" that would require the Board to construe those limitations in the narrower *1373 manner asserted by Mr. Hyatt. The Board's interpretation of those terms, although broad, is not unreasonable.

Mr. Hyatt attempts to distinguish Watanabe by arguing that the correction signal is available to only one of the correction circuits at any given time. For support, he refers to the relevant Watanabe drawing, which shows a curved line connecting each input of the correction circuits to a common line to which the signal is applied. The significance of that symbol, he asserts, is that the wire to an input is taken from a bundle of wires and is thus independent of the remaining wires in the bundle.

[8] Mr. Hyatt did not make this argument in his brief to the Board; instead, he raised it for the first time in his second request for rehearing before the Board. Because the Board in its decision on Mr. Hyatt's first request for rehearing did not alter its position with respect to the anticipation ruling on claims 1, 8, 24, and 30, Mr. Hyatt was not entitled under Board rules to file a second request for rehearing on that issue. See 37 C.F.R. § 1.197(b) (appellant may file one request for rehearing "unless the original decision is so modified by the decision on rehearing as to become, in effect, a new decision, and the Board of Patent Appeals and Interferences so states"). In its response to Mr. Hyatt's second request for rehearing, the Board expressly relied on 37 C.F.R. § 1.197(b) in refusing to consider the request. Mr. Hyatt's argument about the nature of the connection circuits shown in Watanabe was therefore not properly before the Board. As such, he is not entitled to rely on it as a basis for overturning the Board's decision. See *In re Schreiber*, 128 F.3d at 1479, 44 UPSQ2d at 1433; *In re Wiseman*, 596 F.2d 1019, 1022, 201 USPQ 658, 661 (CCPA 1979); *In re Fong*, 54 C.C.P.A. 1482, 378 F.2d 977, 981, 154 USPQ 25, 28-29 (CCPA 1967).

In any event, the Watanabe drawing clearly shows the common line to consist of N channels, with N channels also entering each input to a correction circuit. The channels correspond to the N-bits of a correction signal, as disclosed in the Watanabe written description. Thus, the correction signal reaches the input of all of the correction circuits, contrary to Mr. Hyatt's contention.

[9] One further point remains. The second limitation of claim 30 in Mr. Hyatt's application refers to a "degraded device memory storing degraded liquid crystal device condition signals to identify a degraded liquid crystal device." Mr. Hyatt argues in passing in his brief that the examiner and Board did not establish what in Watanabe is relied on to be a "degraded device memory storing degraded liquid crystal device condition signals." The short answer to that objection is that in Watanabe the degraded device information, *i.e.*, the output of the device detector, is stored in memory that Watanabe specifically notes is found in the correction-value determining device. The Board therefore did not err in deciding that claim 30, like related claims 1, 8, and 24, is anticipated by Watanabe.

AFFIRMED.

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(Cite as: 211 F.3d 1367, *1373)

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United States Court of Appeals,
Federal Circuit.

In re Robert GOODMAN, Vic C. Knauf, Catherine
M. Houch and Luca Comai.

No. 93-1073.

Dec. 3, 1993.

Applicant appealed order of Board of Patent Appeals and Interferences rejecting claims of application for lack of enabling disclosure and for obviousness-type double patenting. The Court of Appeals, Rader, Circuit Judge, held that: (1) first nine claims for method of manufacturing mammalian peptides in plant cells were properly rejected on ground that specification did not enable one skilled in art to use invention without undue experimentation, and (2) four claims of application were properly rejected under doctrine of obviousness-type double patenting.

Affirmed.

Rich, Circuit Judge, concurred in result.

West Headnotes

[1] Patents ☞ 324.5
291k324.5

[1] Patents ☞ 324.55(1)
291k324.55(1)

Whether patent applicant's specification satisfied requirement of enabling disclosure was question of law reviewed by Court of Appeals independently, while factual findings underlying such conclusion of law by Board of Patent Appeals and Interferences were reviewed for clear error. 35 U.S.C.A. § 112.

[2] Patents ☞ 324.5
291k324.5

Rejection of specification under doctrine of obviousness-type double patenting is legal conclusion reviewed freely by Court of Appeals.

[3] Patents ☞ 99
291k99

When filed, specification must enable one skilled in

particular art to use invention without undue experimentation. 35 U.S.C.A. § 112.

[4] Patents ☞ 99
291k99

Board of Patent Appeals and Interferences was justified in rejecting nine claims of patent application for method of manufacturing mammalian peptides in plant cells on ground that specification did not enable one skilled in art to use invention without undue experimentation; specification contained single example, and such example did not enable biotechnician of ordinary skill to produce any type of mammalian protein in any type of plant cell; moreover, specification did not contain sufficient information to enable broad scope of claims. 35 U.S.C.A. § 112.

[5] Patents ☞ 120
291k120

To prevent extension of patent right beyond statutory limits, doctrine of "obviousness-type double patenting" rejects application claims to subject matter different but not patentably distinct from subject matter claimed in prior patent.

[6] Patents ☞ 314(5)
291k314(5)

Obviousness-type double patenting is question of law.

[7] Patents ☞ 120
291k120

Double-patenting determination involves two inquiries: (1) whether claimed invention is claimed twice, in which case rejection is proper because inventor is entitled to single patent for invention; or (2) whether, if one claimed invention has broader scope than the other, one claim defines merely obvious variation of other claim, in which case patentee may overcome double patenting rejection by filing terminal disclaimer. 35 U.S.C.A. § 101.

[8] Patents ☞ 120
291k120

Under certain circumstances, double-patenting obviousness rejection will only be sustained if application claims are not patentably distinct from

prior patent claims, and prior patent claims are also not patentably distinct from application claims; such "two-way" analysis is necessary because later-filed improvement patent may issue before earlier-filed basic invention.

[9] Patents ☞ 120
291k120

Absent terminal disclaimer, claims of patent application that were generic to species of invention covered by claim in prior application for which patent was issued were properly rejected under doctrine of "obviousness-type double patenting"; in such case, generic invention was "anticipated" by species of patented invention.

[10] Patents ☞ 108
291k108

Since claim in patent application could be rejected under doctrine of obviousness-type double patenting, and applicant grouped that claim with two other claims, latter two claims were also properly rejected.

*1047 Lloyd R. Day, Jr., Cooley, Godward, Castro, Huddleson & Tatum, Palo Alto, CA, argued for appellant. With him on the brief were, Barbara Rae-Venter, PH.D. and Linda A. Sasaki. Of counsel was, Elizabeth Lassen, Calgene, Inc., Davis, CA.

Teddy S. Gron, Associate Sol., Office of the Sol., Arlington, VA, argued for appellee. With him on the brief were, Fred E. McKelvey, Sol. and Richard E. Schafer, Associate Sol. Of counsel were, Albin F. Drost and Lee E. Barrett, Office of the Sol.

Before RICH, RADER, and SCHALL, Circuit Judges.

*1048 RADER, Circuit Judge.

Robert M. Goodman *et al.* (Goodman) appeal the rejection of claims 1-13 of application No. 07/507,380 (the '380 application). The Board of Patent Appeals and Interferences (Board) of the United States Patent and Trademark Office (PTO) rejected for lack of an enabling disclosure and for obviousness-type double patenting. This court affirms the Board.

BACKGROUND

The claims on appeal define a method of manufacturing mammalian peptides in plant cells.

The method calls for integration into plant cells of a DNA construct encoding a mammalian peptide. This transferred DNA construct includes regulatory regions functional in the plant. The regulatory regions instruct the plant cell to transcribe the region of the DNA coding for the mammalian peptide. The method calls for harvesting the valuable peptide after translation of the transcribed messenger RNA.

The application claims an invention of broad scope--a method for producing mammalian peptides in plant cells. When the bacterium *Agrobacterium tumefaciens* infects a wound on a dicotyledonous plant, the bacterium attaches to the plant cell wall and introduces a particular piece of its Ti plasmid [FN1] DNA into the plant cell. This piece of plasmid is the T-DNA (Transferred DNA). The T-DNA integrates into the nuclear genome of the plant cell. The plant cell then manufactures certain enzymes, encoded according to the T-DNA segment, for synthesis of tumor-specific compounds called opines.

FN1. Plasmids are extrachromosomal, closed circular nucleic acid molecules found in many bacterial species. The Ti plasmid is a *T*umor *i*nducing plasmid found in the bacterium *Agrobacterium tumefaciens* that is responsible for crown gall disease in plants (producing tumors).

Accordingly, upon insertion of a foreign DNA segment into the T-region of the Ti plasmid, the natural genetic transfer functions of these bacteria introduce the foreign segment into the plant cell genome. Using its own cell machinery, the plant cell then dutifully strives to transcribe the T-DNA segment and translate the peptide it encodes. Numerous factors affect successful transcription and translation, including the regulatory gene regions (i.e., initiation and termination sequences) preceding and following the T-DNA segment as well as intracellular compounds present during protein formation. If a stable translation product results, the peptide can be harvested from the plant cells.

Independent claim 1 provides:

1. A method for producing a mammalian peptide which comprises:
growing plant cells containing an integrated sequence comprising,
a first expression cassette having in the direction of transcription (1) a transcriptional and translational initiation region functional in said plants cells, (2) a structural gene coding for said mammalian peptide, and (3) a termination region,

whereby said structural gene is expressed to produce said mammalian peptide; and isolating said mammalian peptide substantially free of plant cell components.

Claims 1-6 specify methods for producing mammalian peptides in plant cells using expression cassettes [FN2] with initiation codons recognized by plant cells. Claims 7-9 are directed to production of the peptide interferon in plant cells. Claims 10-13 specify nucleic acid constructs for use in the method claims.

FN2. Expression cassettes are nucleic acid constructs containing sequences directing the cell to initiate transcription of an incorporated gene. The cassettes can often substitute for one another; frequently a cassette also contains a termination region.

The '380 application is a continuation of 06/760,236, which issued as U.S. Patent No. 4,956,282 (the '282 patent). The '282 patent claims a method for producing an interferon in dicotyledonous plant cells. Claim 1 of the '282 patent is identical to claim 8 of the '380 application except that application claim 8 specifies only "plant cells," rather than dicotyledonous plant cells. The '380 application thus has claims broader than those of the issued patent. Stated otherwise, *1049 the claims of the '282 patent are species of the genus claimed in the '380 application.

Application claim 9 is similarly identical to claim 2 of the '282 patent with the exception of the dicotyledonous limitation. Application claim 13 is identical to claim 3 of the '282 patent except that the '282 patent is limited to gamma-interferon rather than "an interferon." Accordingly, these claims also present genus-species relationships between the '380 application and the '282 patent.

The specifications of the '282 patent and the '380 application describe the claimed method in general terms, but provide only a single working example. The example describes the formation of an expression cassette with regulatory regions functional in tobacco plants and a structural gene coding for gamma-interferon. In the example the expression cassette is joined to a selectable marker to simplify isolation of plant cells that successfully integrate the construct. The selectable marker consists of regulatory regions functional in tobacco plants and a DNA sequence coding for a tetracycline resistance gene.

Claims 1-6 on appeal, however, purport to cover any desired mammalian peptide produced in any plant cell. Dependent claims 2-6 add limitations--such as specifying the use of a marker, Ti plasmids, and T-DNA boundary regions--but in no way limit the type of mammalian peptide produced or the type of plant cell used.

Independent claim 7, claim 8 dependent therefrom, and claim 9 dependent from claim 8, specify an interferon as the mammalian protein produced by the method. None of the claims, however, limit the type of plant cell in the method.

Claim 10 claims a DNA construct with regulatory regions functional in plant cells and a structural gene coding for an interferon. Claim 11, dependent therefrom, adds the limitation of a second sequence which is a selectable marker. Claim 12, further dependent from claim 11, requires the second sequence to include a T-DNA boundary. Independent claim 13 specifies a DNA construct for producing an interferon in plant cells and containing an antibiotic resistance selectable marker.

The Board's Rejection

The Board affirmed the Examiner's rejection of claims 1-9 under 35 U.S.C. § 112, first paragraph. According to the Board, the specification did not enable one of ordinary skill in the art to produce any mammalian peptide with the claimed method on July 29, 1985, the effective filing date of the application. Regarding enablement, the Board stated:

[E]ven if one were to read into the claim recitation a limitation that the regulatory region was native either to the plant cell in question or the mammalian cell in question, the present specification would still lack adequate guidance to enable one of ordinary skill to extend [Goodman's] invention beyond the single working example.

According to the Board, Goodman's specification did not disclose the "plant functional" regulatory regions for plants beyond the single example. Thus, one of skill in the art could not replicate the invention in "all plants." Furthermore, the Board found that the specification taught only the *Agrobacterium* - mediated transformation method of plant transformation. This method works only with dicotyledonous plant cells, not all "plant cells."

The Board also affirmed the rejection of claims 1-13

under the doctrine of obviousness-type double patenting in light of claims 1-3 of the '282 patent. The Board held that the issuance of the present claims in the absence of a terminal disclaimer would grant an "unjustified timewise extension of right to exclude granted by a patent." *In re Schneller*, 397 F.2d 350, 354, 158 USPQ 210, 214 (CCPA 1968) (emphasis added). The Board found that the conflicting claims are not patentably distinct from each other because both claim methods and expression cassettes for producing mammalian peptides in plant cells.

DISCUSSION

[1][2] Whether Goodman's specification satisfies 35 U.S.C. § 112's enablement requirement *1050 is a question of law which this court reviews independently. *In re Vaeck*, 947 F.2d 488, 495, 20 USPQ2d 1438, 1444 (Fed.Cir.1991); *Amgen, Inc. v. Chugai Pharmaceutical Co.*, 927 F.2d 1200, 1212, 18 USPQ2d 1016, 1026 (Fed.Cir.), cert. denied, 502 U.S. 856, 112 S.Ct. 169, 116 L.Ed.2d 132 (1991). This court reviews the factual findings underlying that conclusion of law for clear error. *Vaeck*, 947 F.2d at 495. Similarly, a rejection under the doctrine of obviousness-type double patenting is a legal conclusion this court reviews freely. See *In re Kaplan*, 789 F.2d 1574, 229 USPQ 678 (Fed.Cir.1986).

Enablement

[3] The first paragraph of 35 U.S.C. § 112 provides: The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains ... to make and use the same....

The specification, when filed, must enable one skilled in the particular art to use the invention without undue experimentation. *In re Wands*, 858 F.2d 731, 737, 8 USPQ2d 1400, 1404 (Fed.Cir.1988). Naturally, the specification must teach those of skill in the art "how to make and how to use the invention as broadly as it is claimed." *Vaeck*, 947 F.2d at 496.

[4] Goodman's specification contains a single example of producing gamma- interferon in the dicotyledonous species, tobacco. This single example, however, does not enable a biotechnician of ordinary skill to produce any type of mammalian

protein in any type of plant cell. The specification does not contain sufficient information to enable the broad scope of the claims. For instance, production of peptides in monocotyledonous plants involves extensive problems unaddressed by Goodman's specification.

In an effort to show that his recombinant methods achieved comparable results in monocots as well as the higher-ordered dicot plants, Goodman cites an article by J.P. Hernalsteens et al., *An Agrobacterium-Transformed Cell Culture from the Monocot Asparagus officinalis*, 3 EMBO J. 3039-41 (1984). However, the article found limited success transforming asparagus cells using *A. tumefaciens* as a gene delivery system:

[F]ormal proof that these swellings resulted from T-DNA-induced cell proliferation was not given. Tissue cultures of transformed cell lines were not available, and T-DNA-specific markers such as opines were not identified. Recently, the detection of opines in such swellings on *Narcissus* has been reported (Hooykaas et al., 1984).

However, the presence of nopaline in swellings could be due to a transient expression of the nopaline synthase and would not be indicative for stable T- DNA transformations.... We conclude that T-DNA transfer to at least some of the monocots is possible, and that the opine-specific T-DNA promoters are active in these cells with an efficiency similar to that found in dicots.... Whether this finding can be used as a general method to select transformed monocot cell lines is presently under investigation.

Id. at 3040-41. The article expressly invited further "investigation" to determine whether the method works with monocots in general.

Hernalsteens also questioned the results described in Hooykaas-Van Slogteren et al., *Expression of Ti Plasmid Genes in Monocotyledonous Plants Infected with Agrobacterium tumefaciens*, 311 Nature 763 (1984), another reference Goodman cites to show success of the method with monocots. Like Hernalsteens, the Hooykaas-Van Slogteren article advocated more experimentation: "[F]urther research is needed to establish whether crops from other monocot families ... can be transformed by the Ti plasmid." *Id.* at 764. Neither Hernalsteens nor Hooykaas show general use of the claimed method in monocot plants.

A 1985 article by Potrykus et al., *Direct Gene Transfer to Cells of a Gramineous Monocot*, 199 Mol.Gen.Genet. 183 (1985), characterizes even the modest optimism of Hernalsteens and Hooykaas as a departure from mainstream expectations:

*1051 [I]t has been widely considered that monocotyledonous [sic] plants, including the commercially important crop plants of the *Gramineae* family, are insensitive to [Ti plasmid transformation] and thus are not candidates for the use of this gene transfer system. Two recent reports have modified this opinion to some extent....

[Hooykaas and Hernalsteens] have shown that the monocotyledonous [sic] plants tested are susceptible to *Agrobacterium* infection although in neither case was conclusive proof for the transfer and integration of foreign DNA presented.... Members of the family *Gramineae*, to which the most commercially important crops belong, have never been shown to be susceptible. Thus, although some monocots are susceptible to *A. tumefaciens*, there is still a major block to the prospects for genetic engineering of the *Gramineae*.

Id. at 187. This article, coupled with the hedgings in the Hernalsteens and Hooykaas articles, shows great unpredictability in the art when Goodman filed the broad claims in the '380 application in 1985.

Goodman's own 1987 article, *Gene Transfer in Crop Improvement*, 236 Science 48 (1987), underscores the "major block" to using the claimed method with monocot plant cells. Goodman reports: "Although data have been cited that *Agrobacterium* can transfer T-DNA to monocotyledonous hosts, clear evidence of T-DNA integration exists only for asparagus, and, even in that case, no transformed plants have been described." *Id.* at 52 (citation omitted).

Thus, even the references cited by Goodman to show enablement support the Board's position that great uncertainties encumbered *Agrobacterium*-mediated transformation in monocot plants at the time of filing. Goodman's 1987 article shows that the claimed invention did not overcome those uncertainties. Claims 6, 8, and 9 recite the *Agrobacterium* method of transformation. The record clearly supports the Board's determination that these claims are not enabled for the breadth of all varieties of plants.

Claims 1-5 and 7 do not include a limitation of transformation via *Agrobacterium*. These claims still

specify incorporation of the mammalian peptide sequence into any plant cell. The record does not sustain Goodman's effort to describe other methods of gene transfer for incorporating mammalian peptides into any plant cell.

Goodman's own article describes bacterially mediated DNA transfer as the most advanced system of transformation in 1987, two years after the '380 application's filing date. *Id.* at 51. As the above references report, even this preferred method was ineffectual in the vast majority of monocot plants at the time of filing.

As an alternative method, Goodman suggests gene transfer by direct DNA uptake by the plant, accomplished using protoplasts instead of intact plant cells. [FN3] This method could encompass monocot as well as dicot plants. Goodman's own report, however, undercuts this method:

FN3. A protoplast is a plant cell that no longer has the rigid cell wall that normally surrounds it. See Bruce Alpert et al., *Molecular Biology of the Cell* 1143 (2d ed. 1989).

Integration into plant chromosomes of foreign DNA introduced by direct uptake is a relatively rare event.... [A]pplication of direct DNA uptake to the cereals [monocots] may be limited because regeneration of whole plants from protoplasts has not yet been achieved for many cereal species.

Id. at 52. Again, Goodman makes this unfavorable assessment in 1987, two years after the filing date.

Goodman also asserts microinjection could transfer genes into all plant cells. Under the microinjection method, micropipettes are used to inject DNA solutions into cells. Goodman reported in 1987, however, that transformation by microinjection of plant cells only worked with protoplasts. *Id.* at 53. As with direct DNA uptake, this limitation to protoplasts restricts the method's usefulness in monocots.

A final method of gene transfer cited by Goodman is viral-mediated transformation. Goodman again reported only very limited success with this method in 1987:

In plants, viral-based vectors are not likely to stably transform plant cells because integration *1052 of viral genes into plant chromosomes has not been detected.

Id. Thus, on Goodman's 1985 filing date, the record shows no reliable gene transformation method for use with monocot plants. Each of the methods for monocot plants was fraught with unpredictability. The teachings in the specification do not cure this unpredictability. The record shows that practicing a gene transformation method for all monocot plants, if possible at all in 1985, would have required extensive experimentation that would preclude patentability. See *White Consol. Indus. Inc. v. Vega Servo-Control, Inc.*, 713 F.2d 788, 218 USPQ 961 (Fed.Cir.1983).

In sum, this court discerns no error in the Board's conclusion of nonenablement. Goodman's specification does not enable one skilled in biotechnology in 1985 to practice the method for all "plant cells" as application claims 1-9 require. The record, especially Goodman's own article, shows the need for extensive experimentation to practice the claimed method for just a few plants, let alone all plant cells as broadly claimed in the application.

Double Patenting

The Board rejected claims 1-13 on grounds of obviousness-type double patenting. This court, having affirmed the rejection of claims 1-9 on other grounds, need only address the double patenting rejection of claims 10-13.

[5][6] To prevent extension of the patent right beyond statutory limits, the doctrine of obviousness-type double patenting rejects application claims to subject matter different but not patentably distinct from the subject matter claimed in a prior patent. *In re Braat*, 937 F.2d 589, 592, 19 USPQ2d 1289, 1291-92 (Fed.Cir.1991). Obviousness-type double patenting is a question of law. *Texas Instruments Inc. v. International Trade Commission*, 988 F.2d 1165, 1179, 26 USPQ2d 1018, 1029 (Fed.Cir.1993).

[7] The double patenting determination involves two inquiries. First, is the same invention claimed twice? *General Foods Corp. v. Studiengesellschaft Kohle mbH*, 972 F.2d 1272, 1278, 23 USPQ2d 1839, 1843 (Fed.Cir.1992). This inquiry hinges upon the scope of the claims in question. *Id.* at 1280; *In re Vogel*, 422 F.2d 438, 441, 164 USPQ 619, 621-22 (CCPA 1970). If the claimed inventions are identical in scope, the proper rejection is under 35 U.S.C. § 101 because an inventor is entitled to a single patent for an invention. *Miller v. Eagle Mfg. Co.*, 151 U.S. 186, 197, 14 S.Ct. 310, 314, 38 L.Ed. 121 (1894); *In re Stanley*, 214 F.2d 151, 153, 102 USPQ 234, 236

(CCPA 1954).

Claim 12 of the application claims a DNA construct to express a gene contained therein. Thus, the preamble of the claim recites "[a]n expression cassette"; however, the compositions of matter claimed are a broad genus of DNA constructs that each have:

[A] DNA sequence having in the direction of transcription a transcriptional and translational initiation region functional in plant cells, a structural gene coding for an interferon ... a termination region functional in plant cells (independent claim 10) [and] including joined to said DNA sequence a second expression cassette comprising a second transcriptional and translational initiation region functional in plant cells, a structural gene coding for a peptide providing a phenotypic property capable of selection in plant cells ... a termination region functional in plant cells (dependent claim 11) [and] including a T-DNA boundary (dependent claim 12).

A comparison of this claim and claim 3 of the '282 patent reveals that claim 3 is simply a species of this broad claim. Claim 3 is likewise simply a species of claim 13 of the application. Thus, the claimed inventions are not identical in scope.

If one claimed invention has a broader scope than the other, the court must proceed to a second inquiry: whether one claim defines merely an obvious variation of the other patent claim. *Vogel*, 422 F.2d at 441. Without a patentable distinction--because the pending claim defines merely an obvious variation of the patented claim--the patentee may overcome the double patenting rejection by filing a terminal disclaimer. See *In re Eckel*, 393 F.2d 848, 157 USPQ 415 (CCPA 1968).

*1053 [8] In *In re Braat*, 937 F.2d 589, 593 (Fed.Cir.1991), this court required in certain circumstances, an additional inquiry to support the double patenting obviousness rejection. Under these circumstances, a double patenting obviousness rejection will only be sustained if the application claims are not patentably distinct from the prior patent claims, and the prior patent claims are also not patentably distinct from the application claims. This "two-way" analysis is necessary because a later-filed improvement patent may issue before an earlier-filed basic invention. *Id.*; see *Stanley*, 214 F.2d 151.

In *Braat*, the later-filed application contained claims to a patentable combination that included a subcombination which was the subject of an independent prior application. Although the later-filed application became a patent first, this court did not reduce the term of the earlier-filed, but later-issued, patent. This court did not require a terminal disclaimer because Braat's application was held up not by the applicant, but by "the rate of progress of the application through the PTO, over which the applicant does not have complete control." *Braat*, 937 F.2d at 593. Cf., *Stanley*, 214 F.2d 151 (holding that the broad genus of an earlier-filed application was patentable even though a patent issued for a species of that genus).

This case requires no "two-way" analysis. Although application claims 12 and 13 form the genus containing the species of patent claim 3, PTO actions did not dictate the rate of prosecution. Rather, appellant chose to file a continuation and seek early issuance of the narrow species claims. The appellant also chose to forego an immediate appeal to this court on its broader claims when it filed a continuation application. Moreover, appellant argues that a terminal disclaimer is unwarranted.

Appellant's position could extend the term of the patent grant for many cases in a similar posture. By adopting the easy course of filing a continuation or divisional application to gain a narrow claim, a patentee could gain an extension of the term on a species when the broad genus later issued. This practice would extend the exclusionary right past the 17-year limit mandated by Congress. Under Supreme Court precedent, only one patent can issue for each patentable invention. *Miller*, 151 U.S. at 197, 14 S.Ct. at 314. A second application--"containing a broader claim, more generic in its character than the specific claim in the prior patent"--typically cannot support an independent valid patent. *Miller*, 151 U.S. at 198, 14 S.Ct. at 315; see *Stanley*, 214 F.2d at 153.

[9] Claim 12 and Claim 13 are generic to the species of invention covered by claim 3 of the patent. Thus, the generic invention is "anticipated" by the species of the patented invention. Cf., *Titanium Metals Corp. v. Banner*, 778 F.2d 775, 227 USPQ 773 (Fed.Cir.1985) (holding that an earlier species

disclosure in the *prior art* defeats any generic claim) [FN4]. This court's predecessor has held that, without a terminal disclaimer, the species claims preclude issuance of the generic application. *In re Van Ornum*, 686 F.2d 937, 944, 214 USPQ 761, 767 (CCPA 1982); *Schneller*, 397 F.2d at 354. Accordingly, absent a terminal disclaimer, claims 12 and 13 were properly rejected under the doctrine of obviousness-type double patenting.

FN4. Although this case does not strictly involve prior art because the effective filing date of the patent and the application are identical, the proposition is sufficiently analogous to lend support.

[10] Appellant chose to group claims 10-12 together, and indeed application claim 12 is dependent on application claim 11, which claim is dependent on application claim 10; therefore, these claims stand or fall together. *In re Sernaker*, 702 F.2d 989, 217 USPQ 1 (Fed.Cir.1983); *In re King*, 801 F.2d 1324, 231 USPQ 136 (Fed.Cir.1986). It follows then that application claims 10 and 11 are--like claim 12--not patentably distinct over patent claim 3. Because claim 12 must, in the absence of a terminal disclaimer, fall because of double patenting over the '282 patent, application claims 10-11 must likewise fall.

CONCLUSION

The specification provides insufficient guidance to enable one skilled in the art to *1054 perform the method of claims 1-9 with any plant cell. Accordingly, this court affirms the rejection of those claims pursuant to 35 U.S.C. § 112, paragraph 1. We also affirm the rejection of claims 10-13 for double patenting.

Costs

Each party to bear its own costs.

AFFIRMED.

RICH, Circuit Judge, concurs in the result.

11 F.3d 1046, 29 U.S.P.Q.2d 2010

END OF DOCUMENT



US005790785A

United States Patent [19]
Klug et al.

[11] **Patent Number:** 5,790,785
 [45] **Date of Patent:** Aug. 4, 1998

[54] **WORLD WIDE WEB REGISTRATION INFORMATION PROCESSING SYSTEM**

[75] **Inventors:** John R. Klug, Evergreen; Thad D. Peterson, Denver, both of Colo.

[73] **Assignee:** Customer Communications Group, Inc., Denver, Colo.

[21] **Appl. No.:** 595,837

[22] **Filed:** Feb. 2, 1996

[51] **Int. Cl.⁶** G06F 13/00

[52] **U.S. Cl.** 395/188.01; 395/187.01;
 380/4; 380/23

[58] **Field of Search** 395/188.01, 187.01,
 395/186; 380/4, 25, 24, 23

[56] **References Cited**

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Primary Examiner—Robert W. Beausoliel, Jr.

Assistant Examiner—Norman M. Wright

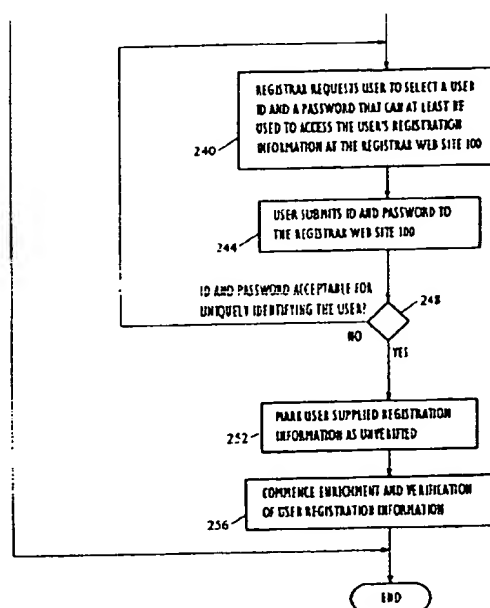
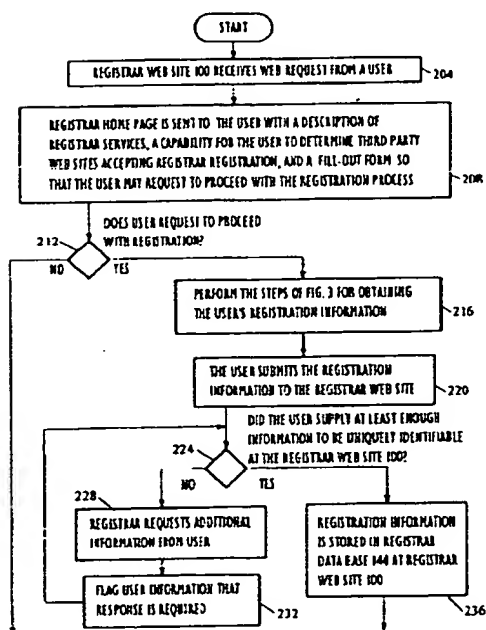
Attorney, Agent, or Firm—Holme Roberts & Owen LLP

[57] **ABSTRACT**

A World Wide Web registration processing system is disclosed for assisting World Wide Web users in registering at World Wide Web web sites. For each such user, the registration processing system includes a long term repository for the user's web site registration information so that this information can be automatically transferred to a plurality of web sites to which the user may at time to time request to be registered. Further, the registration processing system provides the user with the capability to have a common user identification that may be used for accessing services at a plurality of web sites.

14 Claims, 19 Drawing Sheets

REGISTRAR REGISTRATION USING REGISTRAR WEB SITE TO STORE REGISTRATION INFORMATION FOR TRANSMITTAL TO THIRD PARTY WEB SITES FROM REGISTRAR WEB SITE (MAY BE INVOKED BY THE USER OR BY FIGS. 4)



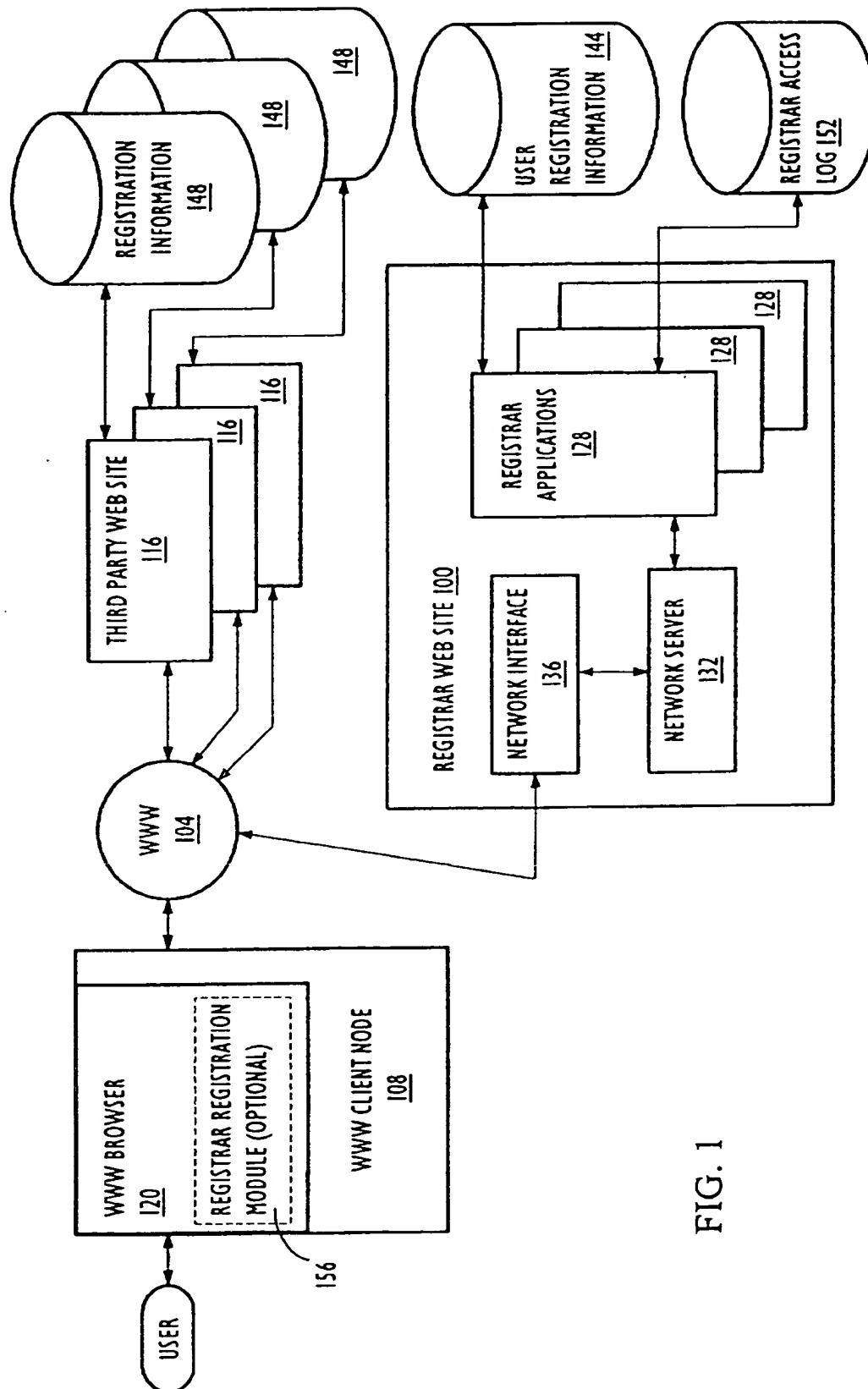
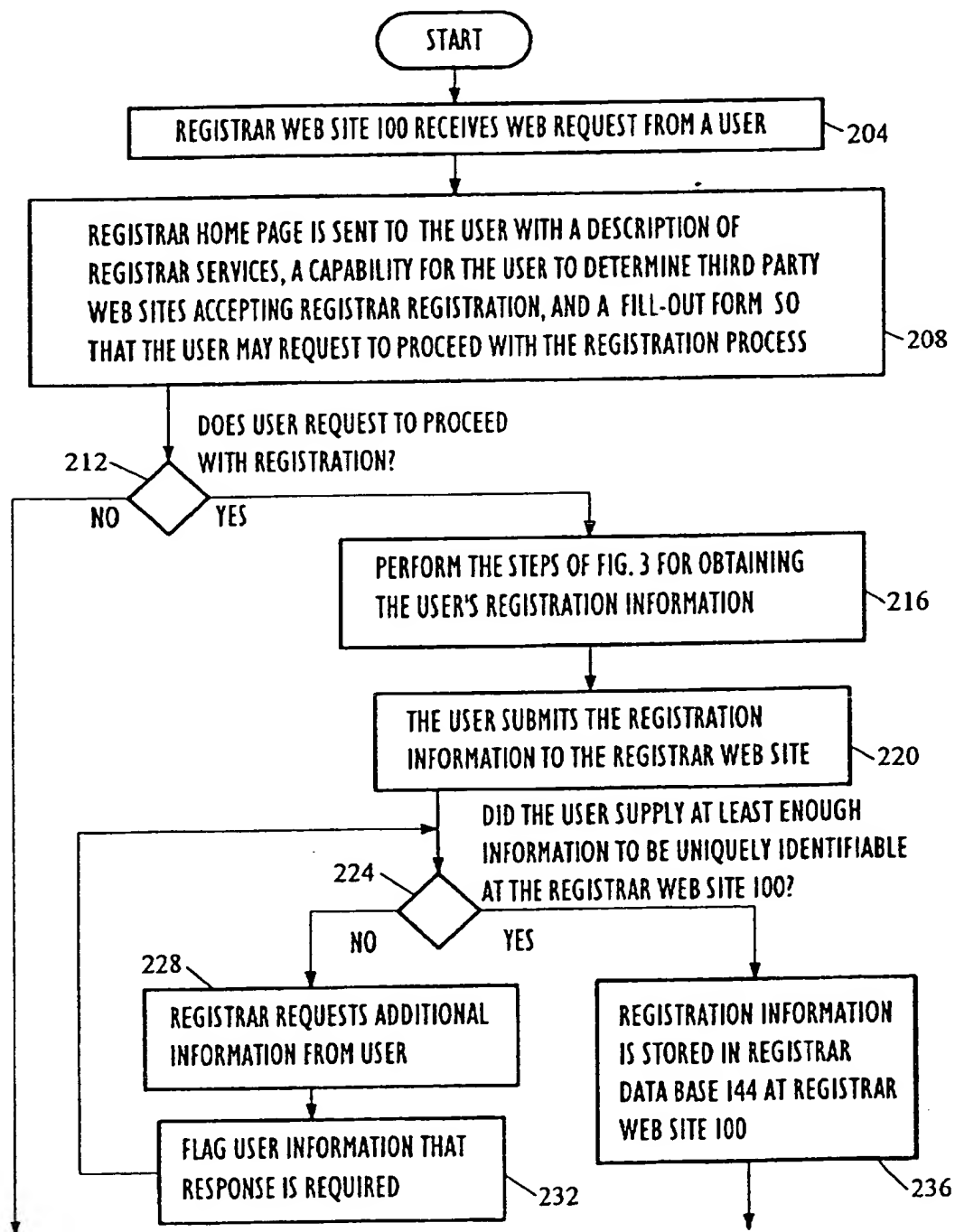


FIG. 1

FIG. 2A

REGISTRAR REGISTRATION USING REGISTRAR WEB SITE TO STORE REGISTRATION INFORMATION FOR TRANSMITTAL TO THIRD PARTY WEB SITES FROM REGISTRAR WEB SITE (MAY BE INVOKED BY THE USER OR BY FIGS. 4)



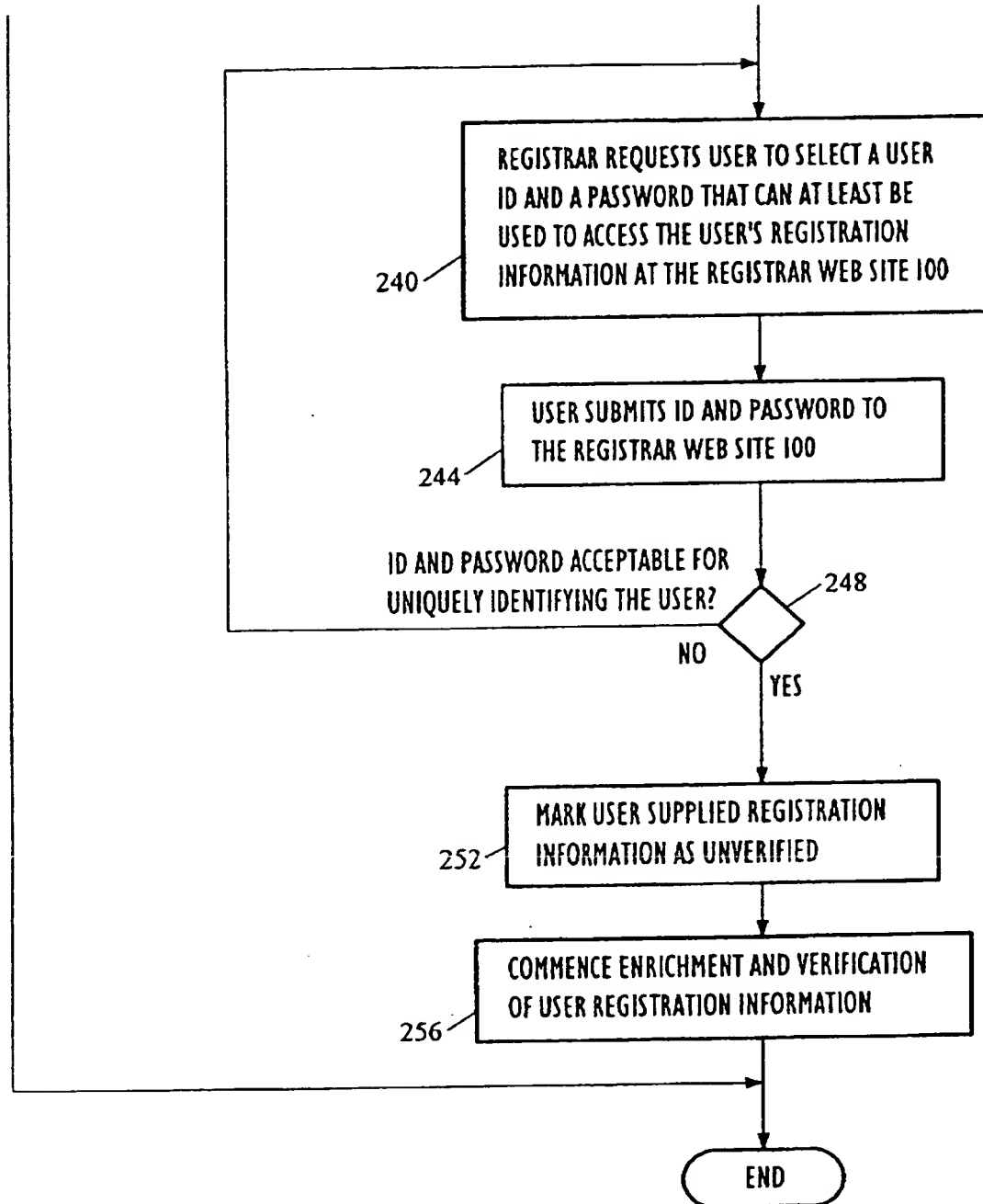


FIG. 2B

FIG. 3 USER ENTERS REGISTRAR INFORMATION
(MAY BE INVOKED BY FIGS. 2 AND 12)

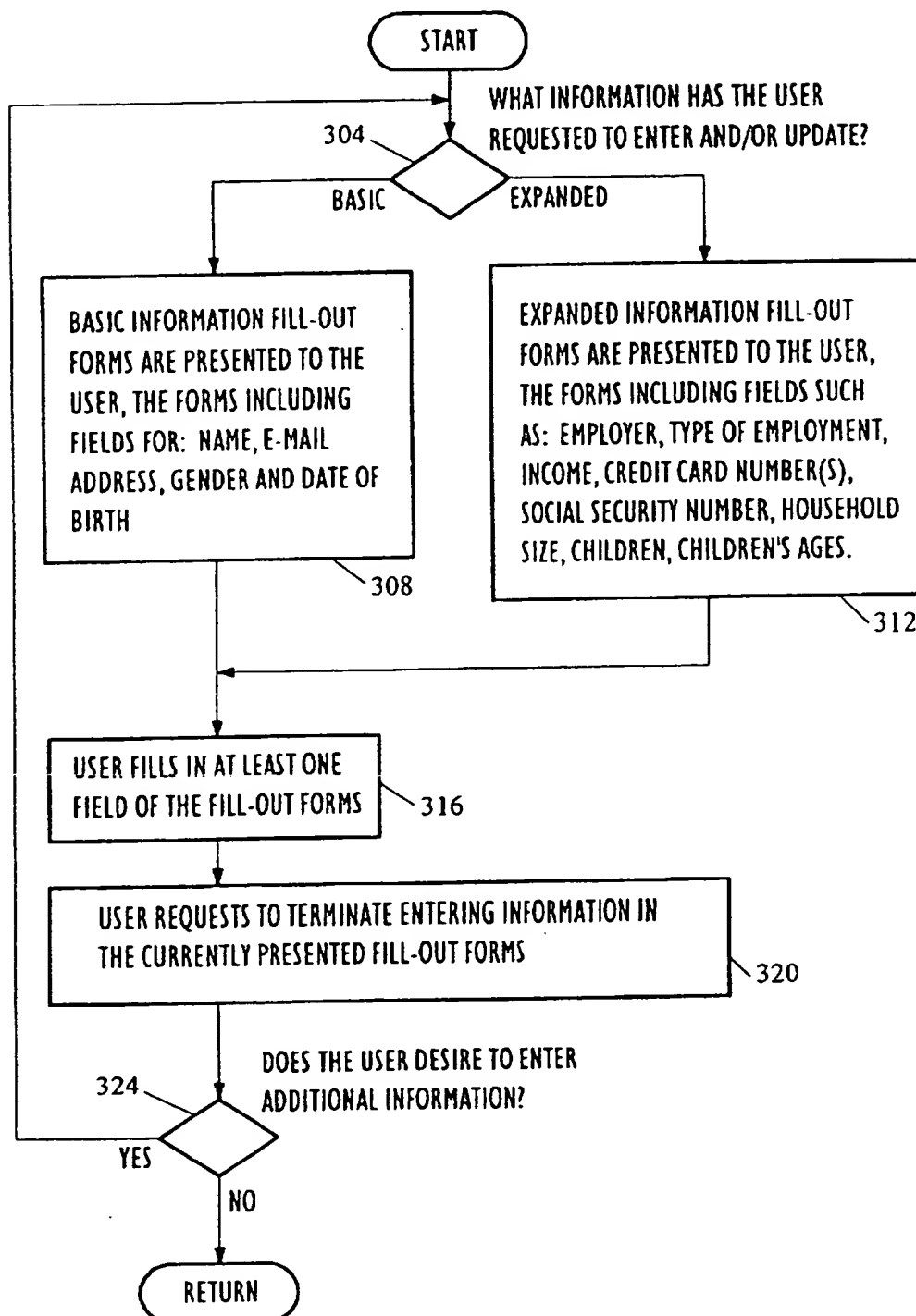
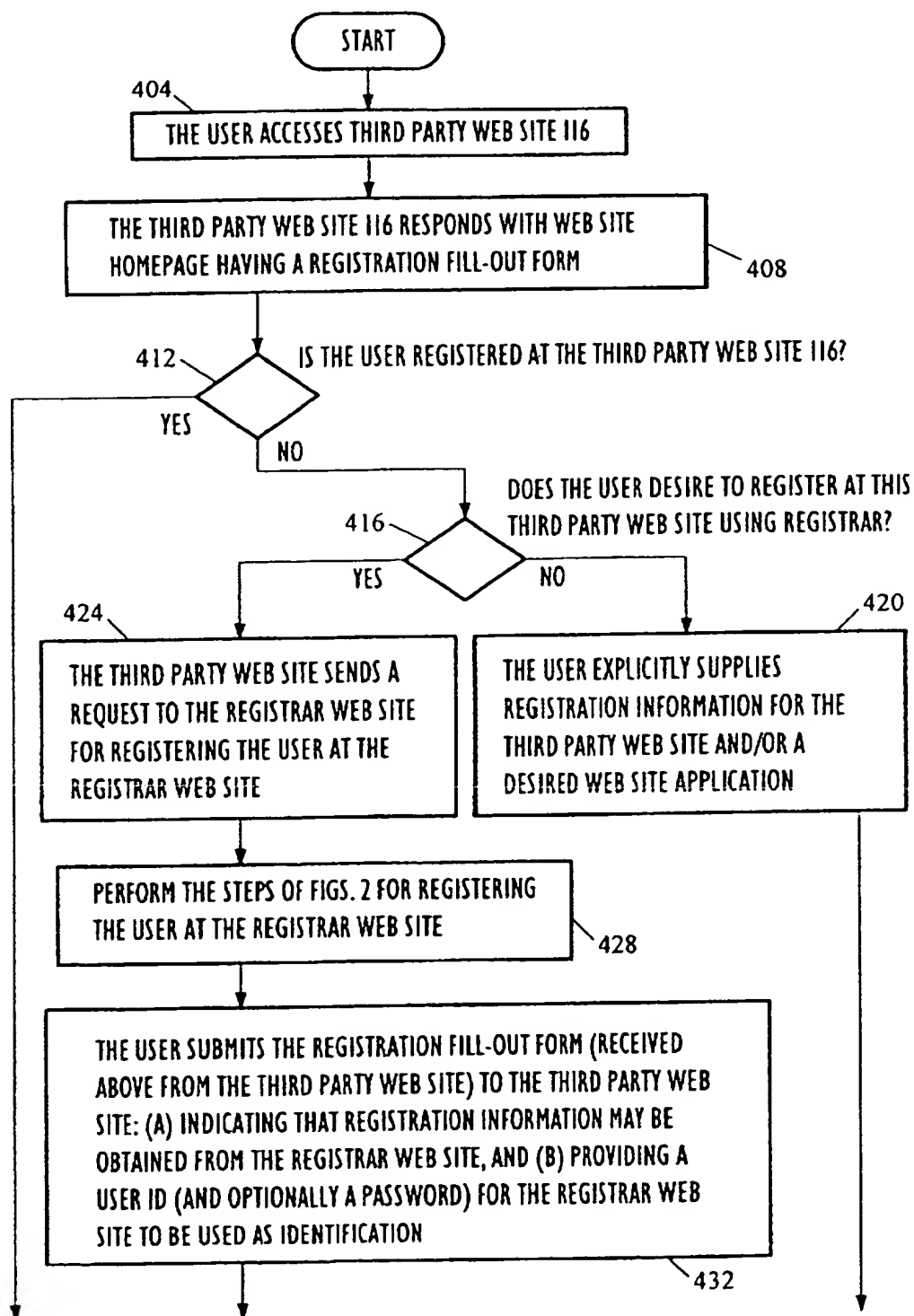


FIG. 4A THE USER REGISTERS AT THE REGISTRAR WEB SITE WHEREIN A THIRD PARTY WEB SITE IS FIRST ACCESSED



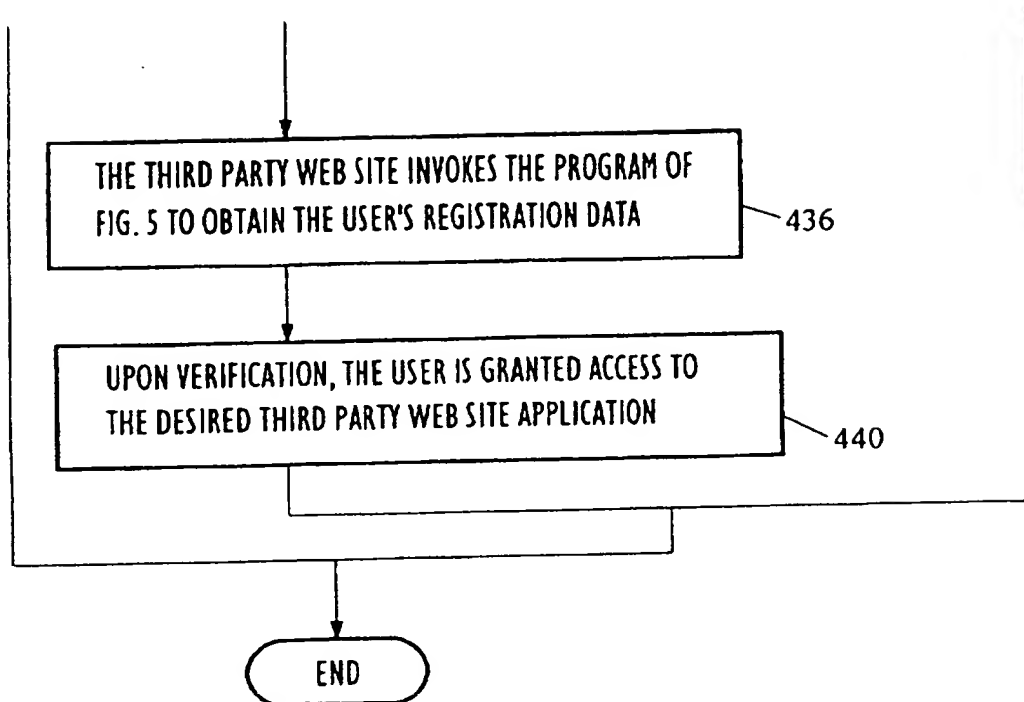


FIG. 4B

FIG. 5 REGISTRATION TRANSMISSION PROCESS BETWEEN REGISTRAR WEB SITE AND THIRD PARTY WEB SITE (MAY BE INVOKED BY FIGS. 4)

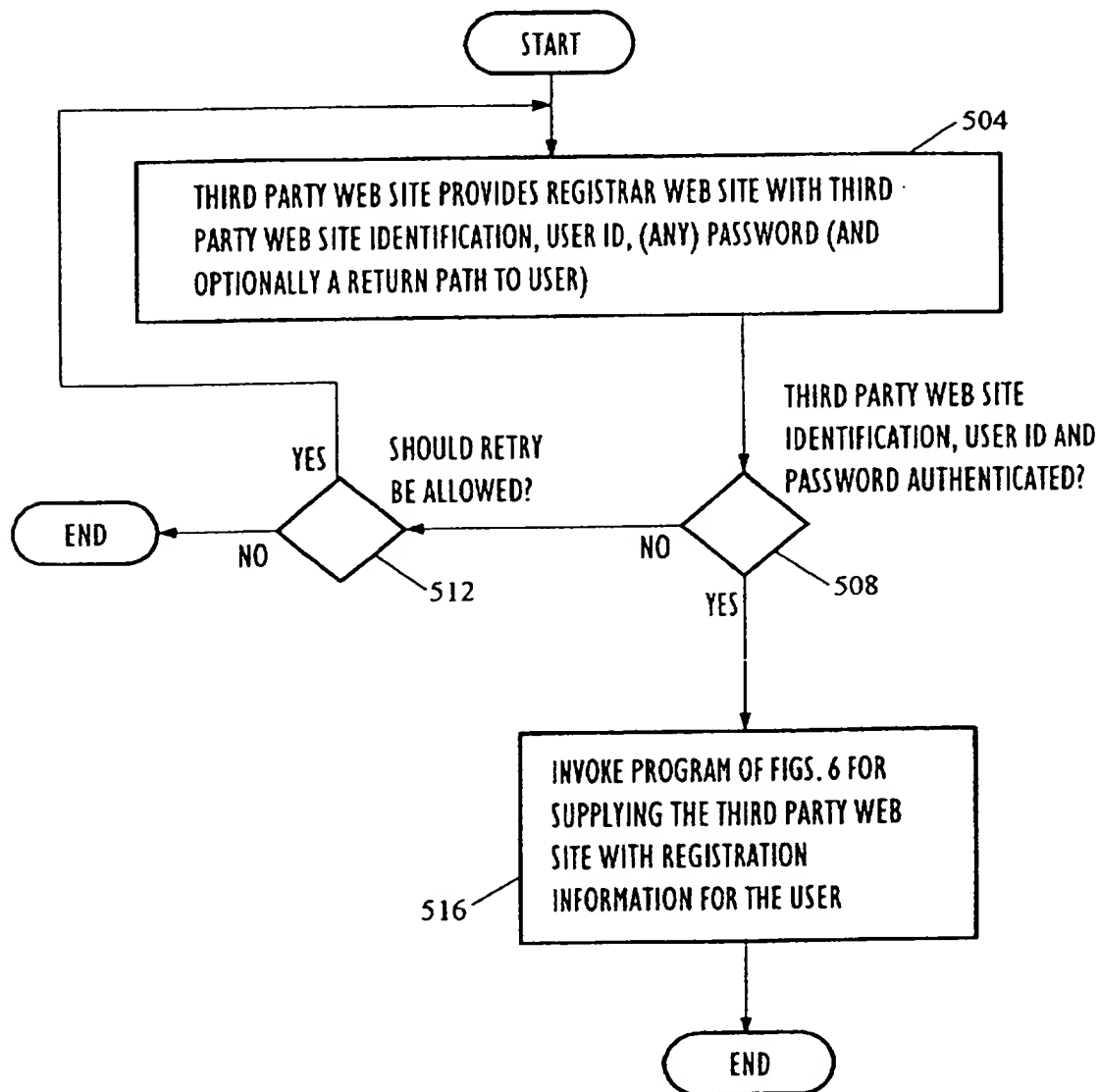
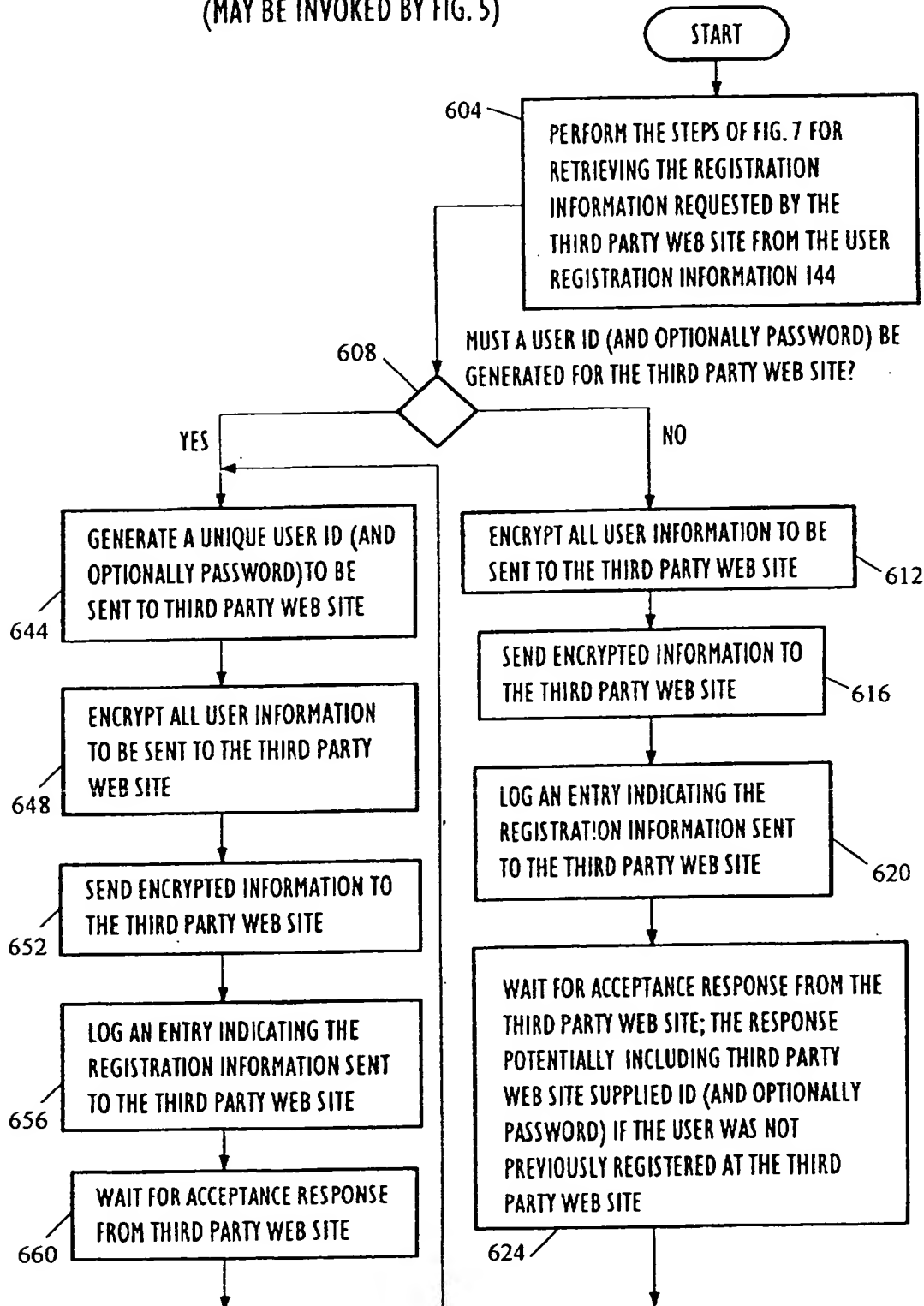


FIG. 6A PROGRAM FOR SUPPLYING A THIRD PARTY WEB SITE WITH REGISTRATION INFORMATION FROM REGISTRAR WEB SITE (MAY BE INVOKED BY FIG. 5)



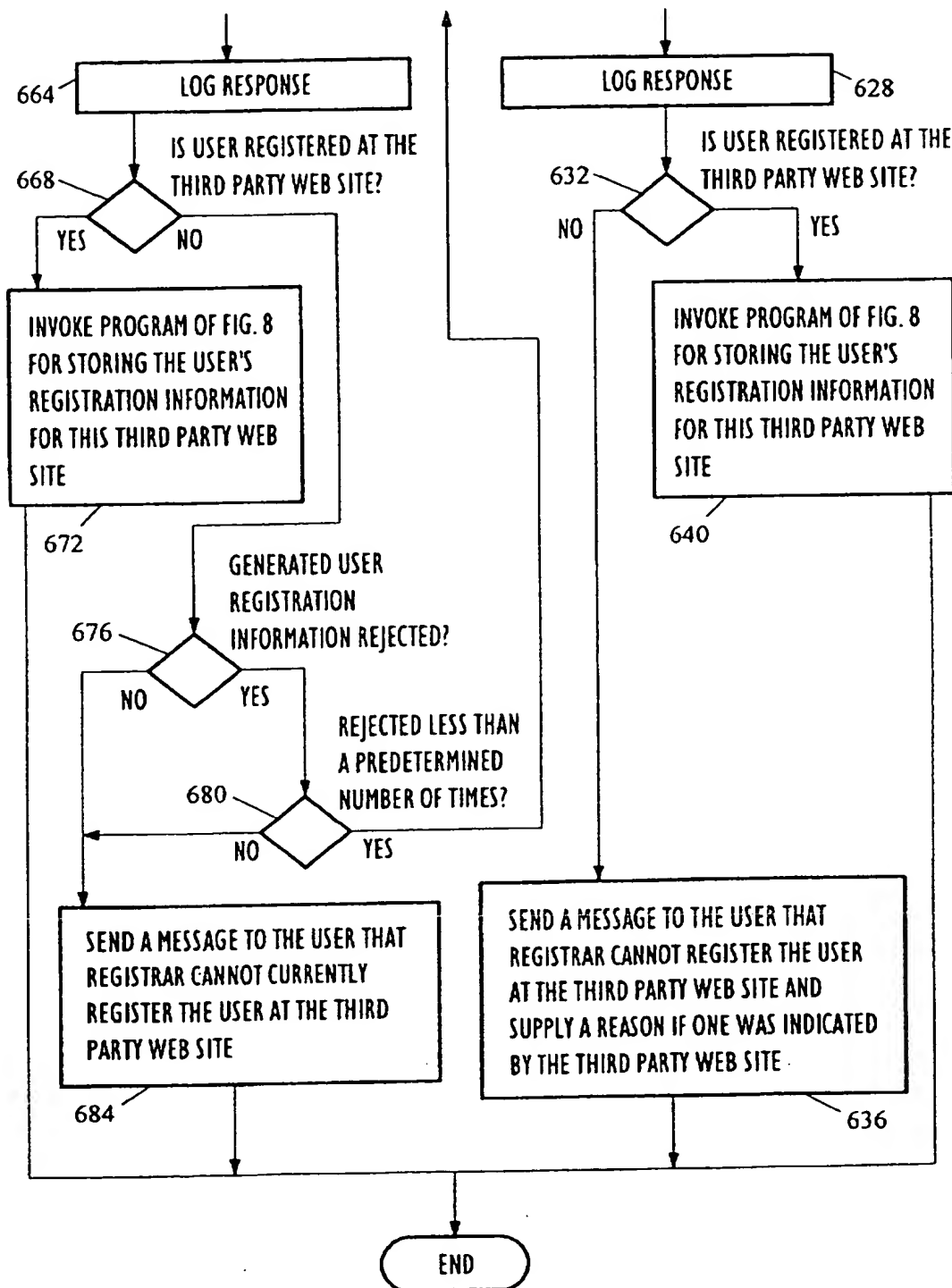


FIG. 6B

FIG. 7 PROGRAM FOR ACCESSING REGISTRATION INFORMATION FOR A THIRD PARTY WEB SITE (MAY BE INVOKED BY FIGS. 6A AND 10)

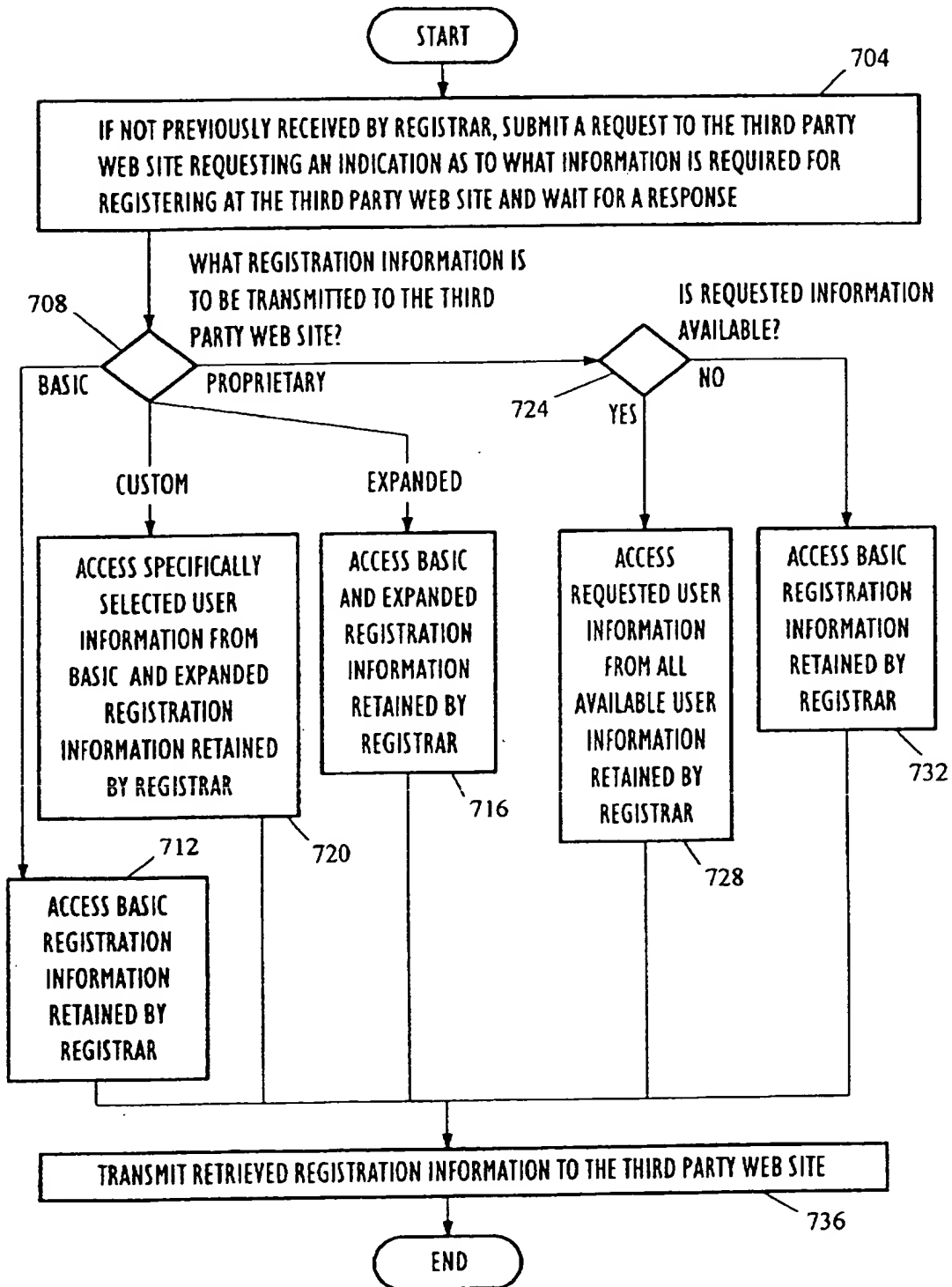


FIG. 8

REGISTRAR STORES THIRD PARTY WEB SITE USER ID AND PASSWORD
(MAY BE INVOKED BY FIG. 6B)

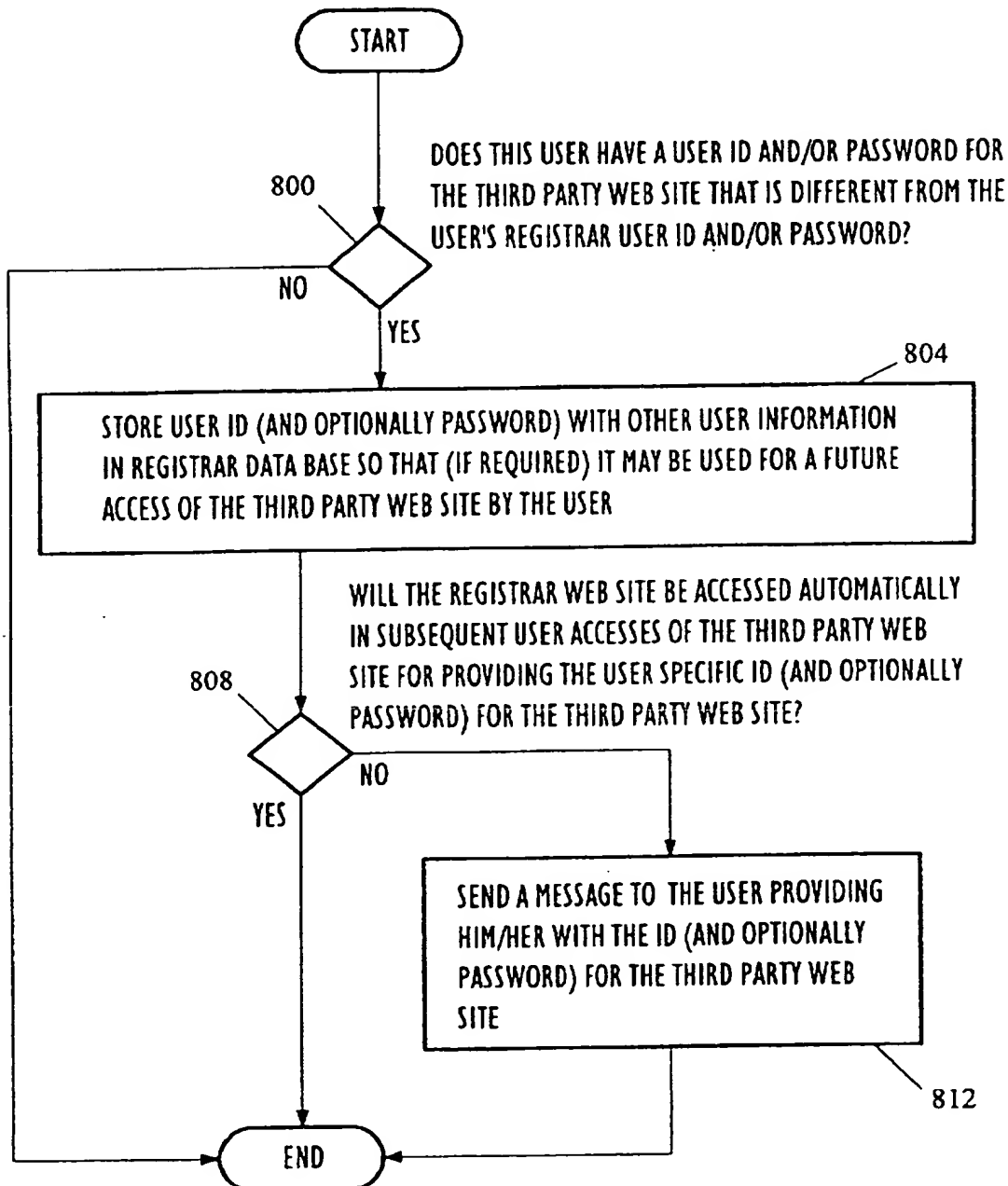


FIG. 9 REGISTRATION TRANSMISSION PROCESS BETWEEN REGISTRAR ON THE USER'S NETWORK NODE AND A THIRD PARTY WEB SITE (INVOKED BY THE USER)

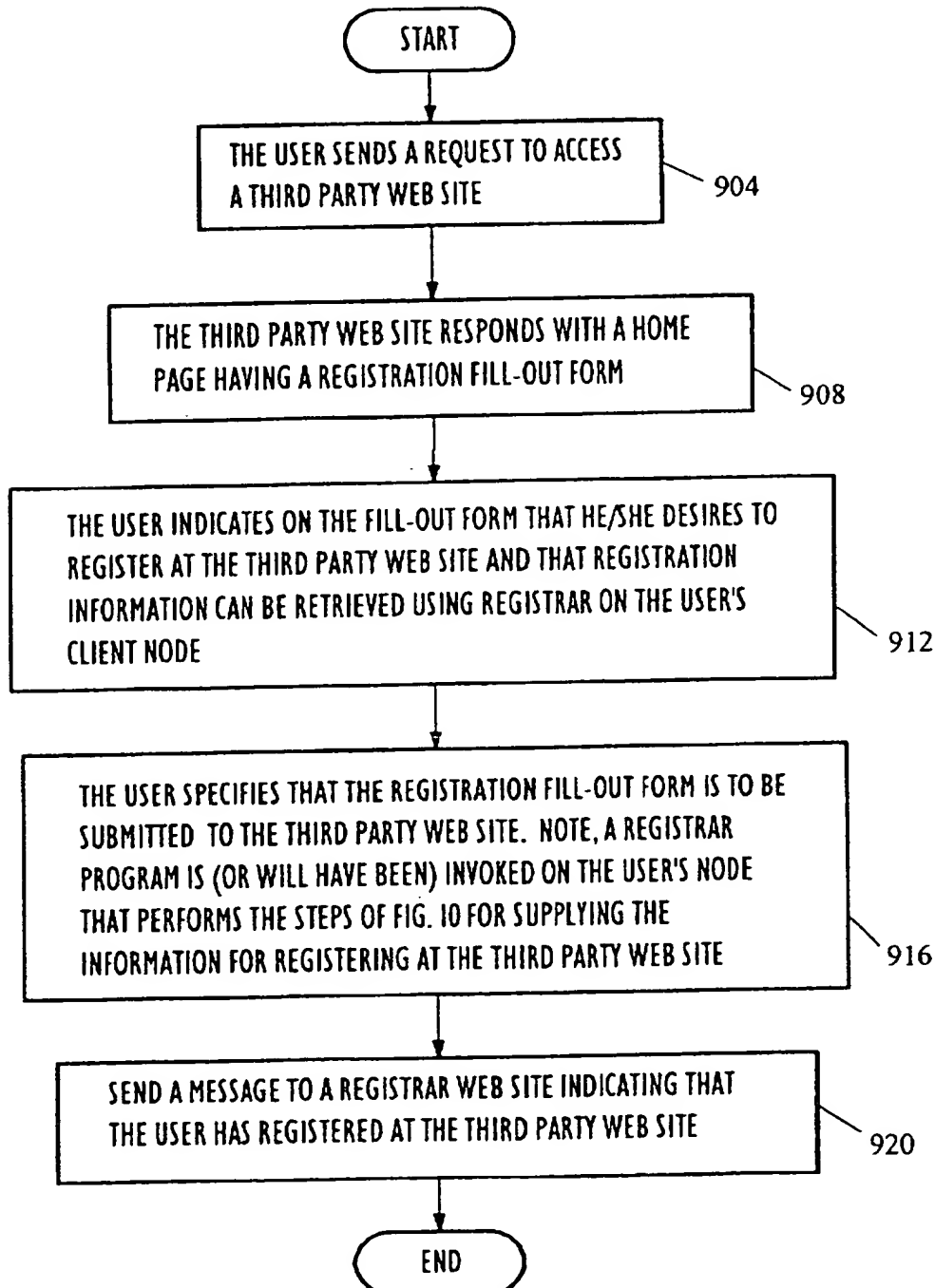


FIG. 10

PROGRAM FOR SUPPLYING A THIRD PARTY WEB SITE WITH
REGISTRATION INFORMATION RETAINED BY REGISTRAR ON THE
USER'S NODE (MAY BE INVOKED BY FIG. 9)

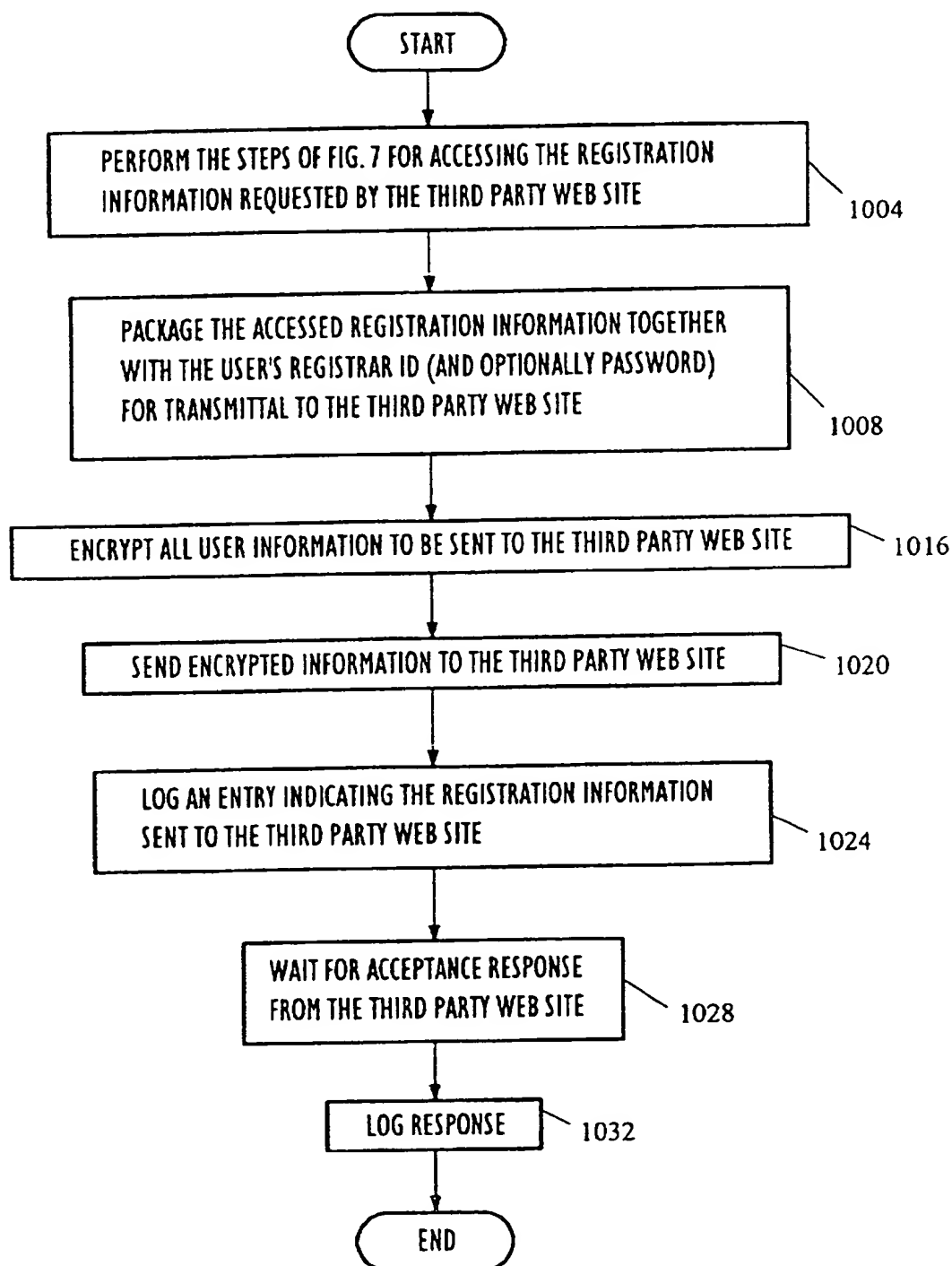
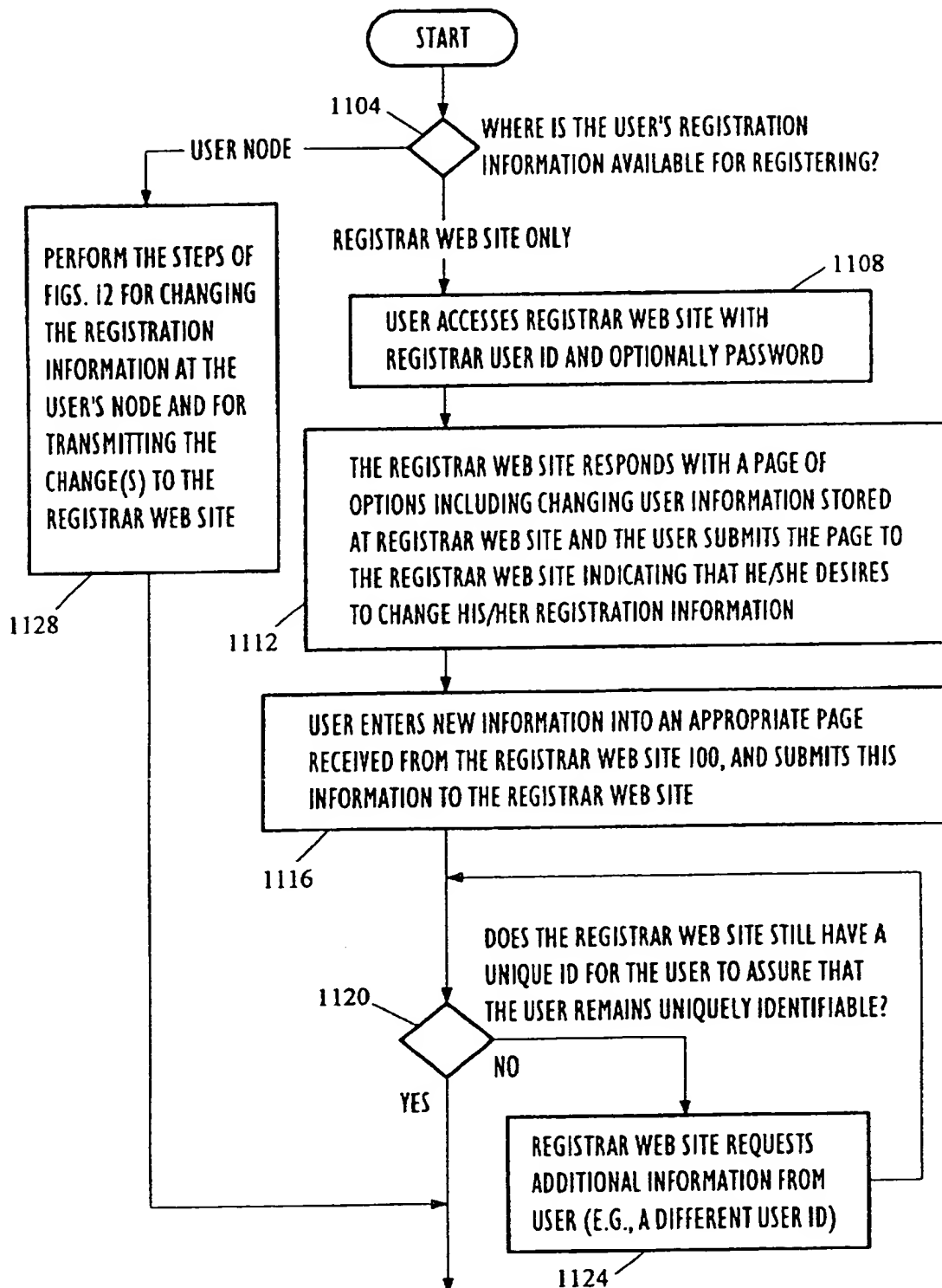


FIG. 11A

CHANGE USER INFORMATION IN REGISTRAR
(INVOKED BY THE USER)

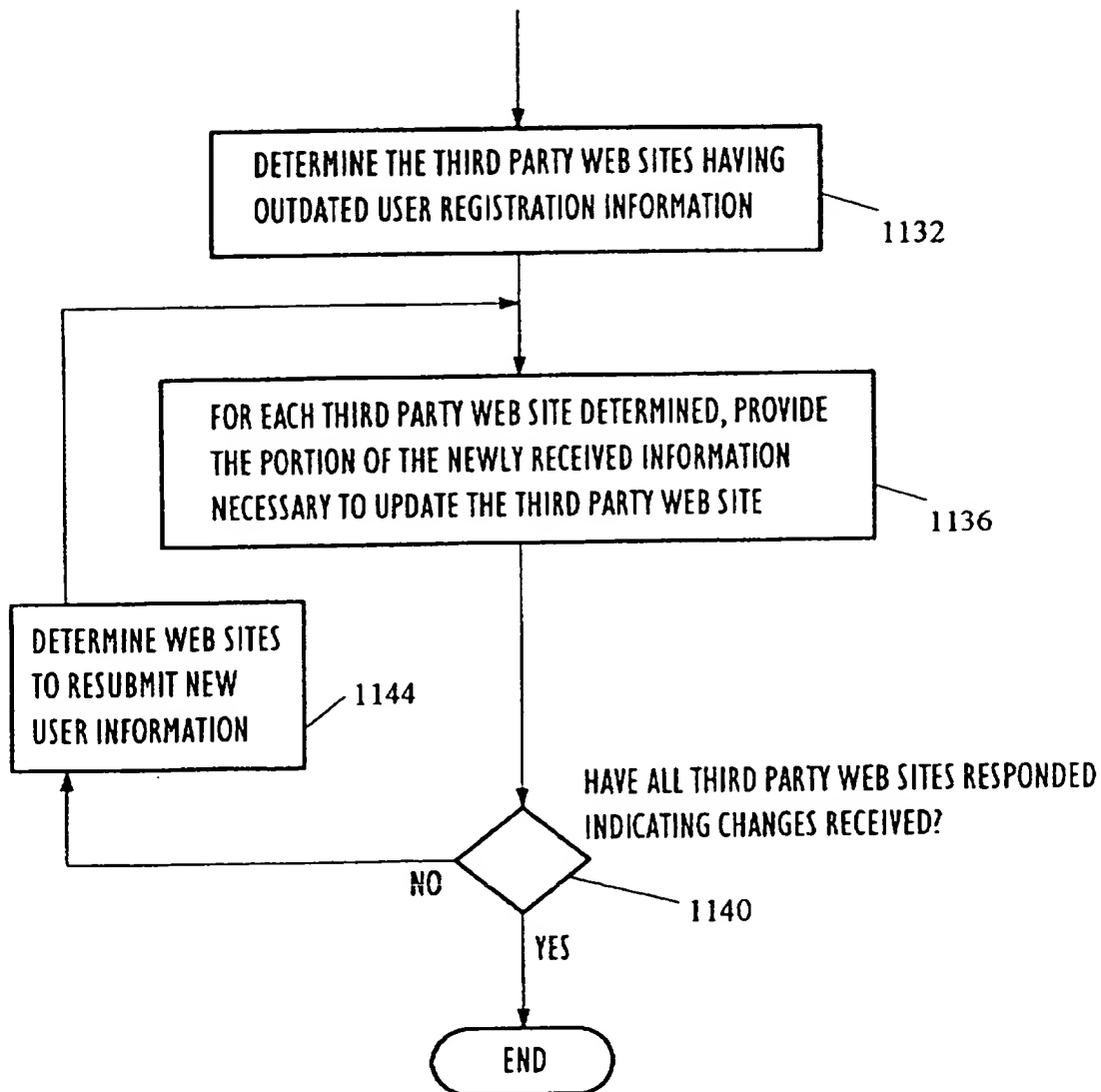
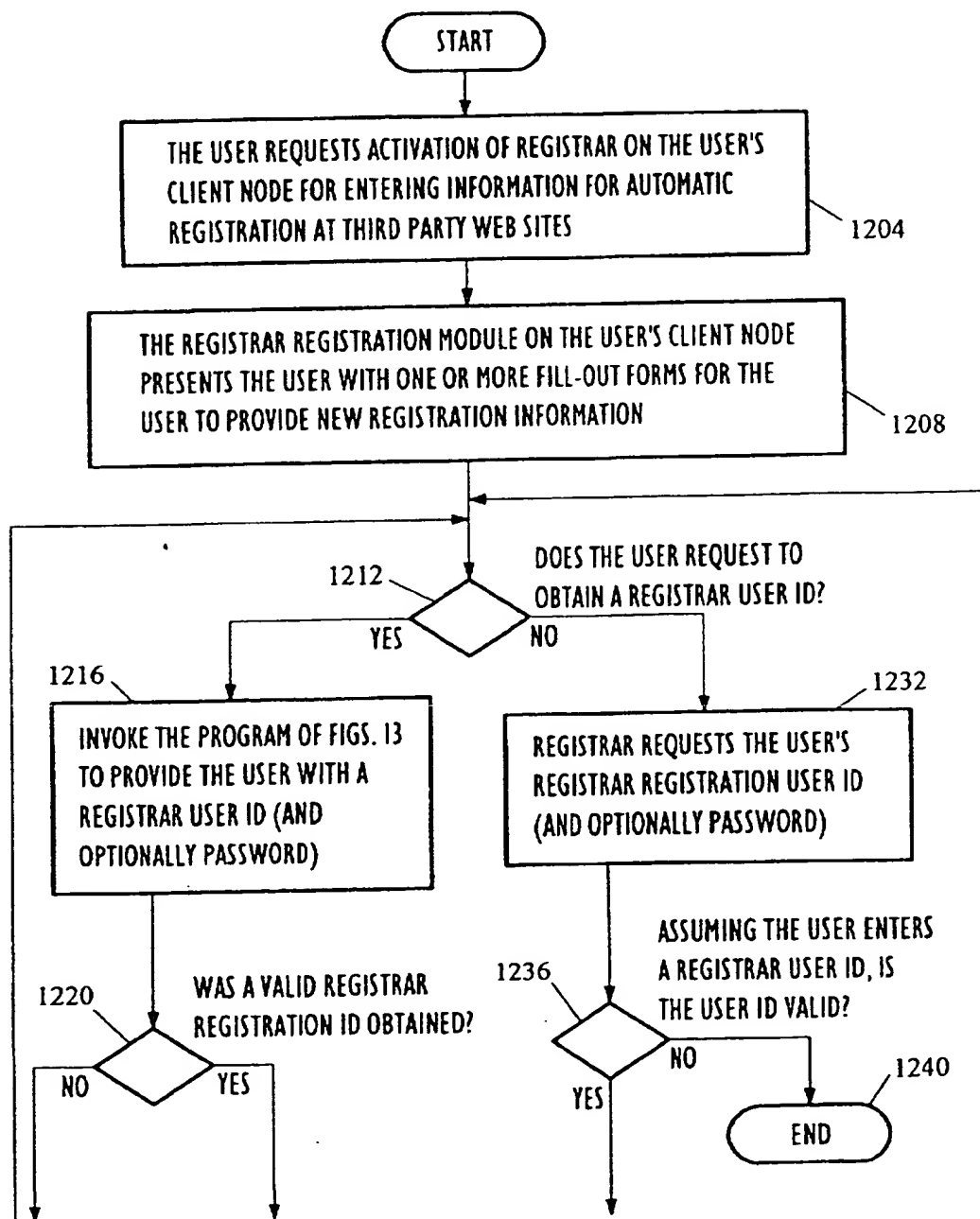


FIG. 11B

FIG. 12A USER ENTERS REGISTRATION INFORMATION INTO THE USER'S CLIENT NODE FOR TRANSMITTAL FROM THE USER'S NODE TO THE REGISTRAR WEB SITE (MAY BE INVOKED DIRECTLY BY THE USER OR BY FIGS. 11)



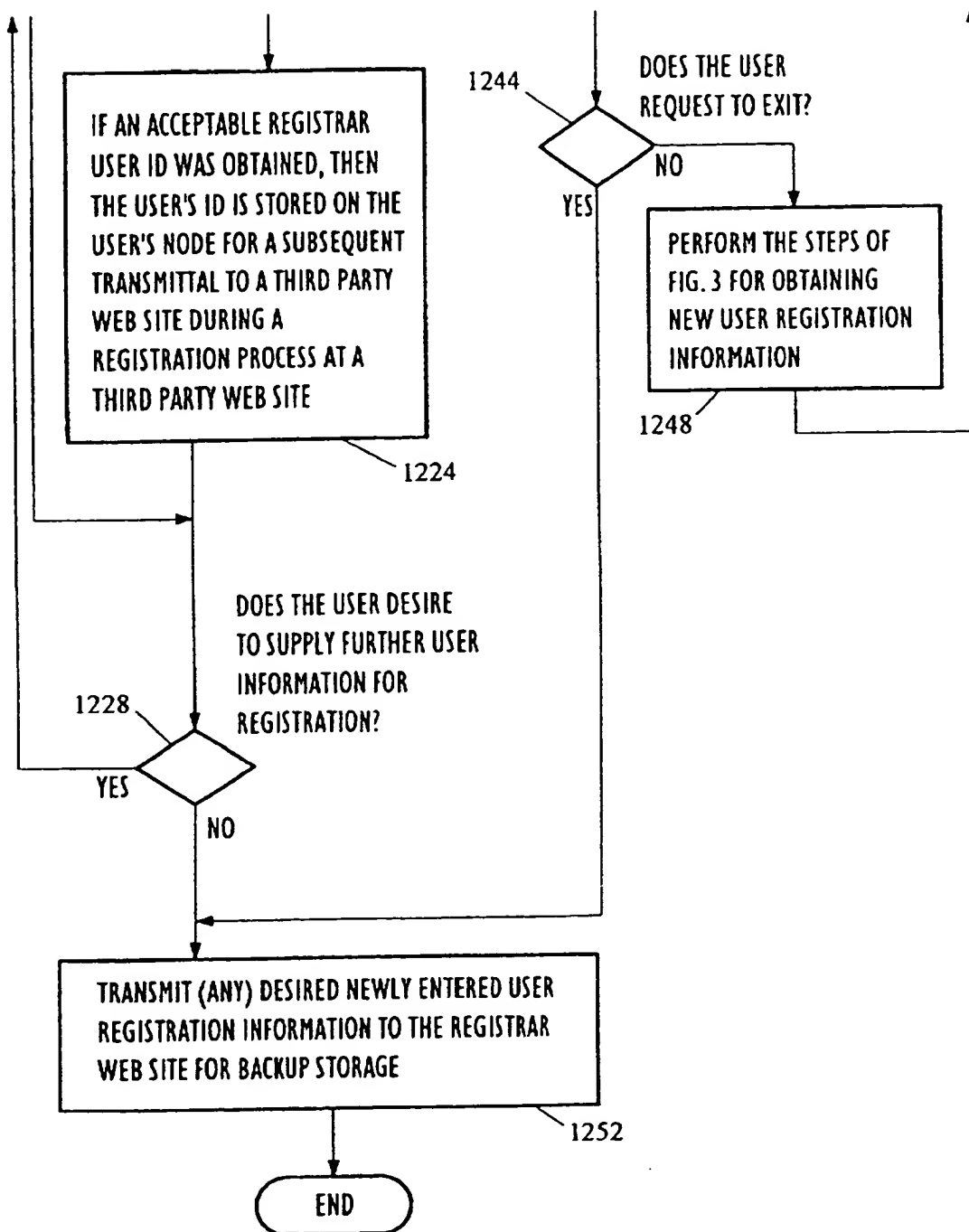
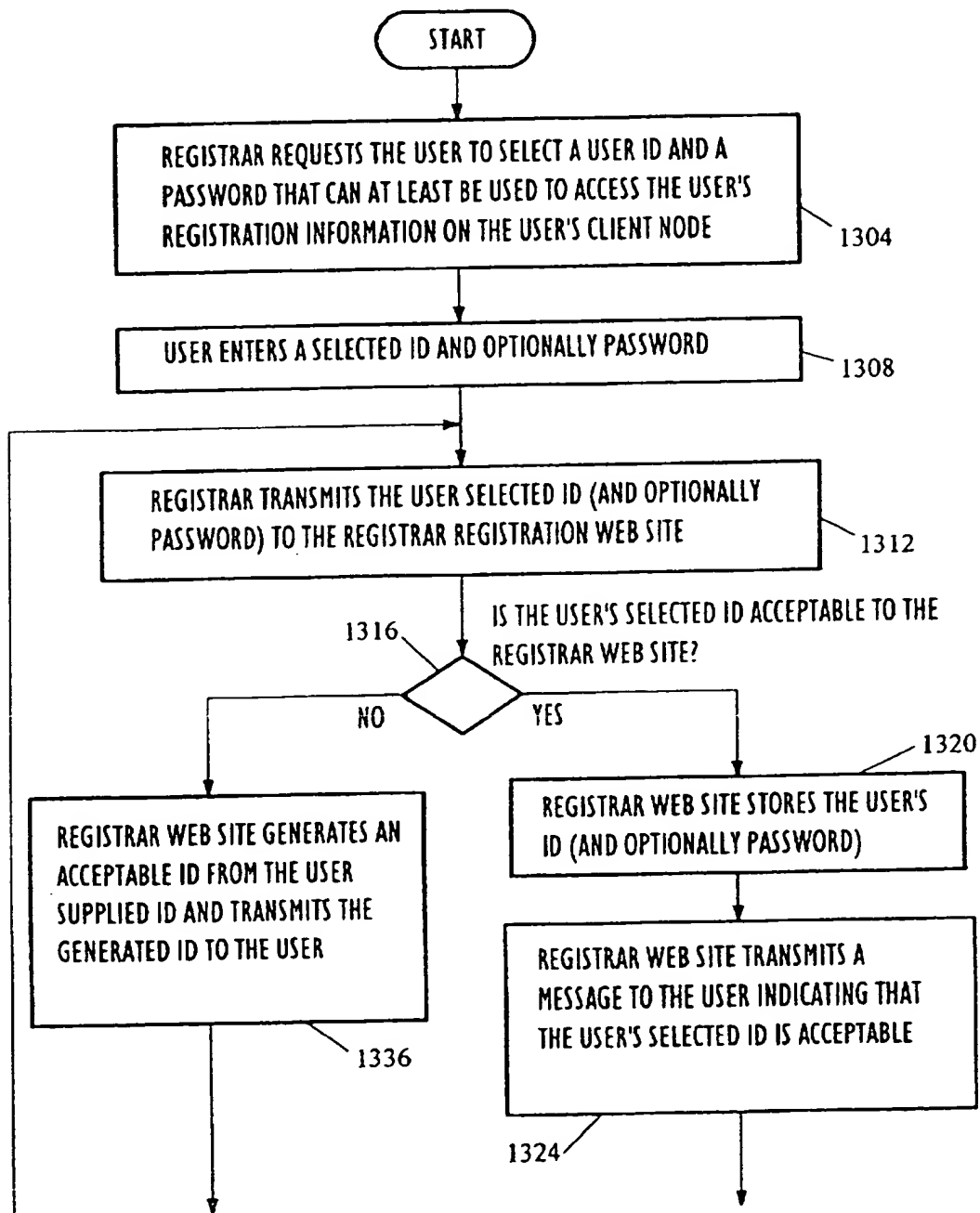


FIG. 12B

FIG. 13A REGISTRAR USER ID PROVIDED FOR USER WHEREIN THE USER'S WEB SITE REGISTRATION IS MAINTAINED ON THE USER'S CLIENT NODE



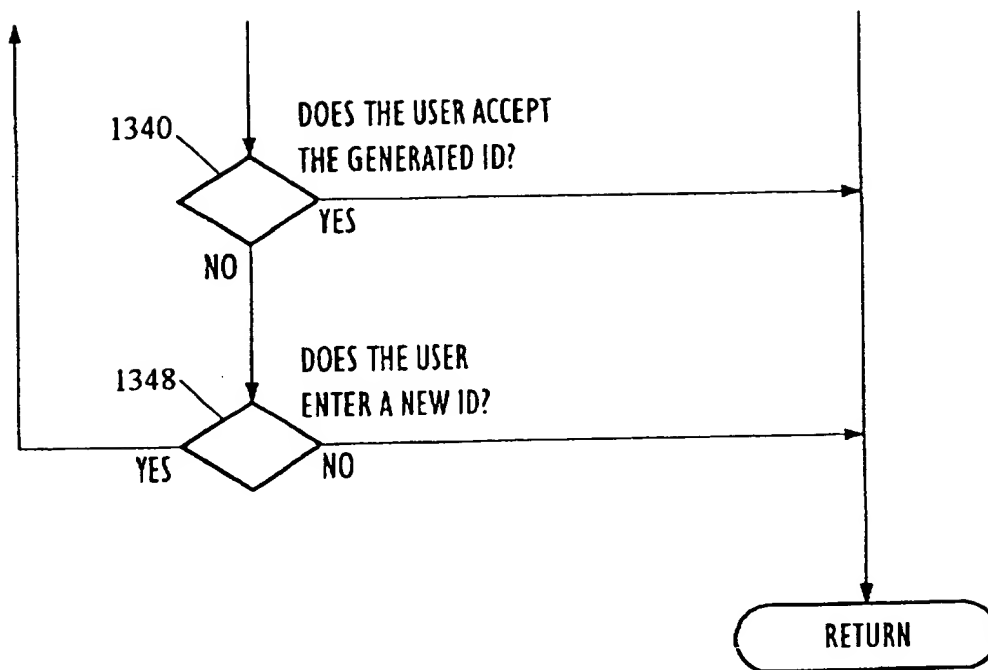


FIG. 13B

WORLD WIDE WEB REGISTRATION INFORMATION PROCESSING SYSTEM

RELATED APPLICATION

This application claims priority from a provisional application filed Dec. 11, 1995, entitled "A WORLD WIDE WEB REGISTRATION INFORMATION PROCESSING SYSTEM" and assigned provisional Ser. No. 60/008,736.

FIELD OF THE INVENTION

The present invention relates to a system for assisting World Wide Web users in registering at World Wide Web web sites. In particular, the present invention provides storage and access to web site registration information provided by a user of the present invention so that, upon requesting to register at a web site that cooperates with the present invention, the user can request his/her web site registration information stored by the present invention to be transmitted to the cooperating web site.

BACKGROUND OF THE INVENTION

The World Wide Web (WWW) is a global communications network having a client-server model as a paradigm for communications. That is, users on client nodes utilizing so called "web browsers" navigate the WWW to access desired server nodes (known as web sites) for at least obtaining information from the server nodes such as hypertext, audio, video, virtual reality, data, etc. For many web sites, it is important to those responsible for the design and maintenance of the web sites that they be capable of accurately measuring both the number and types of users accessing their web sites. In particular, such measurements may be important in determining fees that can be charged by web site developers for building and maintaining a web site. Further, such information may be useful in determining the degree of interest in services and products by web site users. Thus, in order to obtain these web site measurements, such web sites have begun requesting that each user provide information about himself/herself prior to the web site allowing access to web site services. That is, such web sites require a user to "register" at the web site, wherein the user is required to establish a user identification (user ID) and optionally a password with the web site as well as typically provide personal information such as, for example, the city of residence or family size. However, registering at multiple web sites is burdensome for users in that it is: (a) time consuming, and (b) the user is likely to have different user IDs at different web sites, thus requiring a user to maintain a list of user IDs (and optionally passwords) for the web sites to which he/she is registered.

Therefore, it would be advantageous to alleviate many of the above difficulties by automating the registration process at web sites so that users may register at a single web site and use the information provided at this web site to more easily register at other web sites.

SUMMARY OF THE INVENTION

The present invention is a registration information processing system for the World Wide Web that substantially automates the user registration process at web sites. The registration system of the present invention includes a World Wide Web registration web site wherein a user accessing the World Wide Web can utilize this web site as a repository for registration information so that the user can request this registration information to be transmitted substantially auto-

matically to another web site to which the user desires to register. Furthermore, the present invention provides the user with a common user ID, and optionally common password, that can be used to access a plurality of web sites so that there are fewer web site user IDs and passwords for the user to remember. Additionally, the present invention may establish the common user ID (and optionally password) through user input such that the user may request a candidate user ID (and optionally password) and, if acceptable, the candidate user ID becomes the common user ID. However, if the candidate user ID is unacceptable (e.g., because it is a duplicate of another user's common user ID), then the present invention provides the user with one or more alternatives for the common user ID (and optionally password) that the user may accept or reject. Further, note that whenever possible the present invention provides the user with alternative common user IDs wherein the alternatives are derived from the candidate user ID provided by the user.

The registration information processing system of the present invention has a first embodiment using a first system architecture wherein a user need not have any modules specific to the present invention loaded on his/her World Wide Web client node. In this embodiment, once the user has provided registration information to the registration web site of the present invention, when the user subsequently requests to register at a new web site cooperating with the registration process of the present invention, then the user provides this new web site with a user ID and optionally password (e.g., the above-mentioned common user ID) for the registration web site of the present invention together with an indication that any further information may be obtained from the registration web site. The new web site subsequently is able to automatically retrieve the user's registration information from the registration web site and register the user at the new web site.

In a second embodiment of the present invention having a second architecture, World Wide Web client nodes have registration modules for the present invention loaded on them so that these nodes may interact with the registration web site for providing user registration information to cooperating web sites to which the user requests to register. In this second embodiment of the present invention, the user's registration information is stored both locally on the user's client node and at the registration web site, the web site being used as a backup. Thus, when the user desires to register at a new web site, the user's registration information is provided to the web site from the registration module residing on the user's client node.

In either embodiment, the present invention may also provide a "mass" registration capability, wherein a user may request that the present invention automatically register the user at a plurality of web sites. For example, the user may be provided with a capability to search for web sites cooperating with the present invention by, for example, category and request an automatic registration at multiple web sites substantially simultaneously.

Other features and benefits of the present invention will become apparent from the detailed description with the accompanying figures contained hereinafter.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a block diagram of the web site registration information processing system of the present invention, wherein this system is shown in the context of its connections to various nodes of the World Wide Web;

FIGS. 2A and 2B provide a flowchart for describing the steps performed when a user of the World Wide Web explicitly contacts the registrar web site 100 of the present invention for supplying registration information to be used in registering at third party web sites 116;

FIG. 3 is a flowchart presenting the steps a user of the World Wide Web performs when entering web site registration information into fill-out forms that are to be submitted to the registrar web site 100 of the present invention;

FIGS. 4A and 4B present a flowchart for the steps performed when a user of the World Wide Web accesses a third party web site 116, cooperating with the present invention, and in the process of registering at the third party web site the user is automatically put in contact with the registrar web site 100 of the present invention so that registration information may be provided to the present invention for registering the user at the present third party web site as well as other third party web sites that the user may subsequently request;

FIG. 5 is a flowchart of the steps performed by the present invention when transferring user registration information from the registrar web site 100 to a third party web site 116 to which the user has requested to register;

FIGS. 6A and 6B provide a flowchart of the steps performed when supplying a third party web site 116 with registration information from the registrar web site 100, assuming that the third party web site has requested such information and that the request has been authenticated at the registrar web site 100;

FIG. 7 presents a flowchart of the steps performed by the present invention when supplying a third party web site 116 with user registration information from the user registration information database 144;

FIG. 8 presents a flowchart of the steps performed when storing in the user registration information database 144 a user's ID (and optionally password) relating to a third party web site 116 to which the user is registered via using the present invention;

FIG. 9 is a flowchart of the steps performed when registering at a third party web site 116 using the module 156 of the present invention installed on the user's client node 108;

FIG. 10 is a flowchart of the steps performed when the registration module 156 on the user's client node is utilized in supplying a third party web site 116 with registration information;

FIGS. 11A and 11B present a flowchart of the steps performed when a World Wide Web user of the present invention changes his/her registration information stored in the present invention;

FIGS. 12A and 12B present a flowchart of the steps performed when the architecture of the present invention includes the registration module 156 provided at the user's client node 108 and the user requests to enter registration information into the present invention using this module; and

FIGS. 13A and 13B provide a flowchart of the steps performed when a World Wide Web user requests a user ID for the registration information processing system of the present invention and the present invention includes module 156 on the user's client node 108.

DETAILED DESCRIPTION

FIG. 1 is a block diagram of a web site registration information processing system of the present invention.

(hereinafter also denoted by the name "registrar") wherein this system is shown in the context of its connections to various nodes of the World Wide Web (WWW). In a first embodiment, a web site, denoted the registrar web site 100, provided by the present invention, is connected to the World Wide Web 104 for communicating with both World Wide Web client nodes such as WWW client node 108, and with other web sites such as third party web site 116, wherein the registrar web site 100 facilitates the registration of a user at a WWW client node 108 when this user desires to register at the third party web site 116. In this first embodiment, the user accesses the World Wide Web 104 through a WWW browser 120 on a WWW client node 108 wherein, to use the registration facilities of the registrar web site 100 for registering the user at a one or more third party web sites 116, the user must in some manner request explicit access to the registrar web site 100 for registering his/her registration information to the registrar web site 100. Additionally, in this first embodiment of the present invention, the WWW client node 108 need not have executable program modules designed specifically for interfacing with the registrar web site 100. That is, substantially any conventional World Wide Web browser may be used as the WWW browser 120.

Thus, the first embodiment of the present invention may be described as follows. In order for a user to register at one or more third party web sites 116, the user at a WWW client node 108 accesses the World Wide Web 104 and in a first scenario explicitly navigates through the World Wide Web 104 to the registrar web site 100 wherein a registrar web site 100 home page is communicated back to the user's WWW browser 120. As one skilled in the art will appreciate, program modules 128 (hereinafter denoted "registrar applications") output, to a World Wide Web network server 132, information in, for example, a hypertext markup language (HTML) related to capabilities of the registrar web site 100 in assisting the user in registering at third party web sites 116. Such outputs from registrar applications 128, are subsequently transmitted, via the network server 132 and the network interface 136, to the user's WWW browser 120 in the hypertext transfer protocol (HTTP), as one skilled in the art will appreciate. Thus, upon presentation of the registrar web site 100 home page on the user's WWW client node 108, the user subsequently may request to provide registration information to the registrar web site 100 so that he/she can have this information at the registrar web site 100 automatically transferred to a third party web site 116 when the user is requested to register at such a third party web site. Subsequently, after the user's request to supply registration information is transmitted to the registrar web site 100 (via World Wide Web 104, network interface 136 and network server 132), the registrar applications 128 receive the request and output to the user's WWW browser 120 one or more "web pages" having fill-out forms to be presented to the user via the WWW browser 120. Thus, upon submittal of the filled out forms by the user to the registrar web site 100 (more precisely, the registrar applications 128), the user's registration information is stored in the user registration information database 144.

Following the above registration procedure at the registrar web site 100, the user may then substantially automatically register at various third party web sites 116 that are affiliated with the registrar web site 100 in that an agreement has been reached between each such third party web site 116 and the registrar web site 100 for transmitting a user's registration information to the third party web site 116 when, for example, the user requests such transmittal. Thus, assuming the user accesses the third party web site 116 and, for

example, the home page for the third party web site 116 includes a form field allowing the user to specify that the user's registration information is stored and accessible at the registrar web site 100, then the user can submit a response, via the World Wide Web 104, to the third party web site 116 indicating that the user's registration information should be obtained from the registrar web site 100. Thus, the third party web site 116 requests and receives the user's registration information from the registrar web site 100 and stores the user's registration information in registration information database 148 directly accessible by the third party web site 116. Additionally note that when the registrar web site 100 receives a request from the third party web site 116 for user registration information, a registrar application 128 records the request for the user's registration information in a registrar access log data base 152. Thus, the registrar web site 100 maintains a log of the third party web sites requesting registration information. Further, such third party web sites 116 may periodically provide the registrar web site 100 with information related to the frequency that users registered at the registrar web site 100 have accessed the third party web sites 116. Therefore, by also storing this information, for example, in the registrar access log 152, the registrar web site 100 is able to determine the frequency and type of access of third party web sites 116 by users.

In a second method of using the first embodiment of the present invention, instead of the user explicitly navigating the World Wide Web 104 to the registrar web site 100 for providing registration information, the user may instead access a third party web site 116 wherein the home page or registration page for the third party web site includes input fields allowing the user to request that the registrar web site 100 automatically be accessed so that the user can enter web site registration information at the registrar web site 100 and subsequently use the registration information provided to the registrar web site 100 for automatically registering at the third party web site 116 (as well as other third party web sites that may be subsequently requested). That is, the newly entered registration information is transferred to the third party web site 116 by entering into a registrar specific portion of the registration form for the third party web site 116 a registrar user identification and optionally a password for requesting that the third party web site access the registrar web site 100 to obtain the user's registration information. Thus, the user's registration information automatically is communicated to the third party web site 116 without the user explicitly having to navigate the World Wide Web 104 and access the registrar web site 100 to register his/her web site registration information.

Note that alternative embodiments are within the scope of the present invention, wherein program modules for the present invention are distributed so that there is an executable module provided on the user's WWW client node 108 for communication with the registrar web site 100 as well as with third party web sites 116 that accept registration information from the present invention. In one embodiment of such a distributed architecture for the present invention, a registrar registration module 156 is integrated into the user's WWW browser 120 for gathering the user's web site registration information and communicating with the registrar web site 100 as well as cooperating third party web sites 116 at which the user desires to register. Such a registration module 156 may provide the user with easier access to his/her registration information since the information resides locally on the user's WWW client node 108 in a persistent nonvolatile storage. Further, the registrar registration module 156 may be activated for entering or updating user

registration information without the user necessarily being connected to the World Wide Web 104. Moreover, by integrating the registrar registration module 156 into the user's WWW browser 120, the user is presented with an integrated set of functions for registering and accessing third party web sites 116.

Thus, in such distributed architectures, after the user has entered registration information into the registrar registration module 156, this module will substantially automatically contact the registrar web site 100 (via the World Wide Web 104) and thereby communicate the user's registration information to the registrar web site 100 so that, for example, the user's registration information may be reliably stored in case there are failures at the user's WWW client node 108. Thus, to access a third party web site 116 that cooperates with the registrar for registering the user, once the user has made contact through the World Wide Web 104 with such a third party web site 116, the user transfers his/her registration information from the registration module 156 to the third party web site. Further note that in the registration process of the present embodiment, whenever the user registers at a third party web site 116, the registrar web site 100 is provided, by (for example) the module 156, with information related to the registration so that the user also has a off-site backup copy of all registrations at third party web sites residing at the registrar web site 100.

Note that other distributed architectures for the present invention are also contemplated wherein the registrar registration module 156 on the user's WWW client node 108 is not integrated with the user's WWW browser 120. In such an embodiment, the user may be faced with a different user interaction technique for the module 156 than that of the WWW browser 120. However, the user is provided with added flexibility in choosing a WWW browser 120 and/or using his/her existing browser 120 which may not contain as part of the browser the registrar registration module 156.

In FIGS. 2A and 2B, a flowchart is presented describing the steps performed when the user explicitly navigates the World Wide Web 104 to contact the registrar web site 100 for supplying registration information. Accordingly, assuming the user contacts the registrar web site 100, in step 204 the web site 100 receives the user's request for information. Subsequently, in step 208 the registrar web site 100 responds with a home page describing the registrar services, a selection or browsing capability for reviewing third party web sites 116 accepting registrar registrations, and a fill-out form so that the user may request to proceed, if desired, with entering registration information at the registrar web site 100. In step 212 the user determines whether to proceed with the registration process or not. Assuming the user elects to proceed, the request to proceed is transferred back to the registrar web site 100 wherein a registrar application 128 examines the response and outputs a fill-out form that is transmitted back to the user's WWW browser 120 so that the user may enter his/her registration information and submit it to the registrar web site 100. Thus, in step 216 the steps of the flowchart of FIG. 3 are performed by the user when entering information into the registration fill-out form provided by the registrar web site 100. Subsequently, in step 220 the user initiates the transfer of his/her registration information to the registrar web site 100. Note that the submittal of the registration information may be performed by a conventional electronic transfer through the World Wide Web 104 using any one of various internet protocols or, alternatively, other techniques for transferring the information to the registrar web site 100 are also contemplated. For example, the user may fax a printed copy of a completed

registration form to the registrar web site 100 at which point the information may be manually input into the user registration information database 144. In step 224, upon receiving the user's registration information, one or more registrar applications 128 review the user's registration information for determining whether there is enough information supplied to at least uniquely identify the user. If not, then in steps 228 and 232 a registrar application(s) 128 requests additional information from the user and flags the user's information currently stored in the user registration information database 144 indicating that a user response is required to further process the user's information. As an aside, note that other feedback loops to the user are contemplated that are related to the loop of steps 224 through 232. For example, it may be the case that the user has supplied sufficient information to be uniquely identifiable at the registrar web site 100, but the user has supplied insufficient information for the registrar web site 100 to supply adequate information to most third party web sites 116 that utilize registrar registration capabilities. Thus, a similar feedback loop to loop 224 through 232 may be provided for requesting that the user supply additional information so that a substantial number of third party web sites 116 cooperative with registrar will allow the user to register at them using only the information supplied by the registrar web site 100.

Referring again to step 224, if a determination is made that sufficient registration information has been received at the registrar web site 100, the user's registration information is stored in the user registration information database 144 (step 236) and subsequently a registrar application 128 outputs a request to the user to select a user ID and password that can be at least used to access the user's registration information at the registrar web site 100 (step 240). Assuming, as in step 244, that the user submits a user ID and a password to the registrar web site 100, then in step 248 a determination is made by the present invention (more particularly, a registrar application 128) as to whether the user supplied ID and password is acceptable for uniquely identifying the user. If not, then steps 240 through 248 are repeated until an appropriate user ID and password are entered by the user. Thus, assuming that an acceptable user ID and password are provided, in step 252 the registration information supplied by the user is marked as unverified since there has been no independent confirmation that the user supplied information is accurate. Subsequently, in step 256 a registrar application 128 commences to enrich the user's supplied registration information with publicly available information related to the user and, to the degree possible (i.e., conforming with internet etiquette, privacy concerns of users, and public policy), to verify the user's registration information. Note that by comparing the user supplied information with information about the user from other sources, a determination can be made as to the accuracy of the user supplied information. Thus, whenever an item of the user supplied information is independently verified, then that item is unmarked. Alternatively, if discrepancies arise between the user-supplied information and other publicly available information about the user, then the user may be alerted to these discrepancies and requested to confirm his/her initial responses.

Referring now briefly to FIG. 3, this flowchart presents the steps a user performs when entering web site registration information into the fill-out forms to be submitted to registrar. Accordingly, in step 304 the user determines whether to supply basic information (i.e., requested by a substantial number of third party web sites 116) as described in step 308 or to supply expanded information (i.e., more extensive

information about the user so that, for example, registrar has sufficient user information to register the user at substantially all cooperating third party web sites 116). Note that at least in one embodiment, the basic information supplied in step 308 (i.e., the user's name, e-mail address, gender and date of birth) is also requested in the forms for expanded information in step 312. Thus, upon filling in at least one field from the fill-out forms (step 316) presented in either step 308 or 312 the present invention field checks the user's input for syntactically appropriate responses. Subsequently, in step 320, the user inputs a request to terminate entering information in the presently presented fill-out form(s) and in step 324 the user determines whether to enter additional information in either the basic registration information fill-out forms or the expanded information fill-out forms. If the user indicates that he/she desires to enter further registration information, then step 304 is again performed. Alternatively, the flowchart returns to the invoking program (flowchart) with the user supplied registration information.

FIGS. 4A and 4B present a flowchart for the steps performed when the user accesses a present third party web site 116 cooperating with registrar, and in the process of registering at the third party web site the user is automatically put in contact with the registrar web site 100 so that registration information may be provided to registrar for registering the user at the present third party web site as well as other third party web sites that the user may request. Accordingly, assuming the user uses a WWW browser 120 to access a third party web site 116 as in step 404, the third party web site responds with a web site home page (step 408) typically having a registration fill-out form into which the user is requested to enter registration information. Note that the user may or may not be registered at this third party web site. Thus, if the user is registered, then he/she may only need to enter a user ID and optionally a password in order to gain access to a desired application at the third party web site. Further note that for different third party web sites 116, the user's identification (and optionally a password) may be different due to constraints on user ID (and password) syntax being different at different third party web sites. Further, such user IDs at different web sites may be different because a user ID requested by the user may already have been assigned to another user.

Subsequently, once the third party web site 116 has received a response from the user, a determination is made as to whether the user is registered at the web site (step 412). If the user is registered, then no further processing related to the present invention is required. Alternatively, if the user is not registered at the third party web site, then a response is transferred from the third party web site 116 through the World Wide Web 104 to the user's WWW browser 120 providing the user with the fill-out forms in which the user is requested to enter information for registering at the third party web site. Note that if the third party web site 116 is configured to accept user registration information from the present invention, then at least one fill-out form related to registering at the third party web site 116 will request information related to registering the user by using the present invention. In particular, the third party web site 116 may present the user with a fill-out form requesting the user to enter a user ID and optionally a password for the present invention (i.e., registrar) if the user is registered at the registrar web site 100. Additionally, the presented fill-out forms may request the user to indicate whether he/she prefers to register at the third party web site 116 by using registrar. Thus, assuming the user desires to register at the third party web site 116, a determination is made as to

whether the user wishes to register using the present invention or register at the third party web site without using the present invention (step 416). If the user chooses to not use the present invention for registering at the third party web site 116, then the user explicitly supplies registration information for the present third party web site (step 420). Alternatively, if the user chooses to use registrar to register, then once the present third party web site 116 receives a response from the user indicating the choice to use registrar to register, in step 424, the present third party web site sends a request to the registrar web site 100 for registering the user at the registrar web site 100. Subsequently, in step 428 the steps of FIGS. 2A and 2B are performed for registering the user at the registrar web site 100. Subsequently, after registering at the registrar web site 100, in step 432, the user is automatically placed in contact with the present third party web site so that he/she submits a registration fill-out form to this third party web site 116: (a) indicating that the user's registration information may be obtained from the registrar web site 100; and (b) providing a user ID (and optionally a password) for the registrar web site 100 to be used as identification at the present third party web site. Following this, in step 436 the third party web site 116 invokes the program corresponding to FIG. 5 to obtain the user's registration data from the registrar web site 100. Lastly, upon verification by the third party web site 116 of the user's registration data, the user is granted access to the desired third party web site and/or application (step 440).

In FIG. 5, a flowchart is presented of the registration data transmission process from the registrar web site 100 to a third party web site 116. Accordingly, in step 504 the third party web site 116 provides the registrar web site 100 with identification of the third party web site, the user's registrar user ID and (any) registrar password. Further, in some instances, as will be described below, the third party web site 116 also supplies the registrar web site 100 with a return path to the user through the World Wide Web 104. Following this, in step 508, a determination is made by the registrar web site 100 as to whether the third party web site supplied information can be authenticated. If not all third party web site information is authenticated, then step 512 is encountered wherein a determination is made as to whether to request that the third party web site to resend the information of step 504. Note that such a determination may be made in one embodiment depending upon whether the third party web site identification is authenticated. That is, if the third party web site identification is authenticated, then a retry may be allowed. Otherwise, no retry may be allowed. Alternatively, referring again to step 508, if all information transmitted from the third party web site 116 is authenticated at the registrar web site 100, then step 516 is encountered. In this step, the program represented by FIGS. 6 is performed for supplying the third party web site 116 with registration information related to the user from the user registration information database 144.

Referring now to FIGS. 6A and 6B, the flowchart presented here provides the steps for supplying a present third party web site 116 with registration information from the registrar web site 100, assuming that the present third party web site 116 has requested such information and that the request has been authenticated at the registrar web site 100. Accordingly, in step 604 the registrar web site 100 or, more precisely, a registrar application 128 performs the steps of FIG. 7 for retrieving the user registration information requested by the present third party web site 116 from the user registration information database 144. Note that a third party web site 116 may request various categories of infor-

mation from the registrar web site 100 related to the user. In particular, a third party web site may request: (a) basic information as discussed in step 308 of FIG. 3; (b) expanded information as discussed in step 312 of FIG. 3; (c) custom information, wherein selected fields from the basic and expanded information are provided; and (d) proprietary information wherein one or more additional user related information items may be provided wherein these items have been obtained by the registrar web site 100 by, for example, enriching and verifying the registration information obtained from the user as in step 256 of FIG. 2B.

Following step 604, step 608 is encountered wherein a registration application 128 determines whether the present third party web site 116 requesting user information (for a user attempting to register at this third party web site) requires that a user ID (and optionally password) be generated specifically for this third party web site. That is, the third party web site 116 may require a user ID and/or password that conforms with a format peculiar to the third party web site 116. Note that to perform the step 608, in at least one embodiment of the present invention, information related to the requirements of the present third party web site 116 are stored at the registrar web site 100. In particular, the registrar web site 100 may store a user information request template for each third coordinating party web site 116 having access to user information at the registrar web site 100 such that a registrar application 128 (upon identifying a particular third party web site 116) may access a related user information request template for determining what information may be required by this third party web site.

If a user ID and optionally password need not be generated specifically for the requesting third party web site 116, then in step 612 the user information requested by the third party web site 116 is encrypted and in step 616 the encrypted information is sent to the third party web site. Following this, in step 620 a registrar application 128 logs an entry or a record in the registrar access log database 152 indicating that registration information for the user has been transmitted to the present third party web site 116. Subsequently, in step 624 a registrar application 128 (or, more precisely, an instantiation thereof) waits for an acceptance response from the present third party web site 116 to which the encrypted user information was sent. Note that the response from the present third party web site may include a third party web site specific user ID (and optionally password) if the user was not previously registered at this third party web site. That is, the third party web site may automatically generate at least a user ID if the user was not previously registered at the web site. Alternatively, it may be the case that the present third party web site uses the user's registrar registration user ID and password for registering the user at the third party web site 116. Note that in at least one embodiment for registration processing at a third party web site 116, the use of the registrar user ID does not create ambiguity in the identity of users registering at the third party web site. For example, a user seeking access to a cooperating third party web site may be required to indicate that his/her user ID and/or password is a registrar generated user ID (and/or password) so that the third party web site can process the entered user identification differently from that of users who have registered without using the present invention. Subsequently, when an acceptance response from the requesting third party web site 116 is provided to the registrar web site 100 (or, more precisely, a registrar application 128), this response is logged in the registrar access log database 152 in step 628. Following this latter step, in step 632, a determination is made as to whether the response

from the present third party web site 116 indicates that the user is now registered at this third party web site. If no such indication is provided, then in step 636 a message is sent to the user at the user's WWW client node 108 that registrar cannot register the user at the present third party web site to which the user has requested registration and access. Further, the registrar application 128 performing step 636 may also supply the user with a reason as to why the user cannot register through registrar at the present party web site if such a reason was indicated by this third party web site when the response of step 624 was received.

Alternatively, if in step 632 it is determined that the user is registered at the present third party web site, then in step 640 the program corresponding to the flowchart of FIG. 8 is performed for storing at least the user's ID (and optionally password) for the present third party web site at the registrar web site 100 (more precisely, in the user registration information database 144) as will be discussed hereinbelow.

Referring again to step 608 of FIG. 6A, if a registrar application 128 is required to generate a user ID (and optionally password) for the third party web site 116, then step 644 is next performed wherein a registrar application 128 generates a user ID (and optionally password) to be transmitted to the third party web site 116. Subsequently, the sequence of steps 648 through 668 are performed. Note that this sequence of steps is substantially the same sequence of steps as steps 612 through 632. However, the response from the present third party web site logged in step 664 may include an indication as to whether the user generated by the registrar application 128 is acceptable to the present third party web site 116.

Accordingly, continuing the discussion of FIGS. 6A and 6B from step 668, if the response from the present third party web site 116 indicates that the user is registered at the desired third party web site, then step 672 is performed wherein the program corresponding to the flowchart of FIG. 8 is again used to store the user's ID (and optionally password) for the present third party web site in the user registration information database 144 (as in step 640). Alternatively, if in step 668 it is determined that the user is not registered at the present third party web site 116, then in step 676 a determination is made as to whether the generated user registration information (i.e., user ID and optionally password) step 644 has been rejected by the present third party web site. If so, then in step 680 a determination is made as to whether this rejection has occurred less than a predetermined number of times (i.e., the sequence of steps 644 through 668 have been iteratively performed less than a predetermined number of times in attempting to register the user at the present third party web site). If the results of the test in step 680 is affirmative, then step 644 is again encountered for generating alternative user registration information for the present third party web site. Note that it is an aspect of the present invention that, at least in one embodiment, such generations produce user IDs that are meaningful to the user and/or are related to other web site registration user IDs for the user. Thus, in one embodiment of the present invention, the step 644 uses the user's registrar user ID as a "seed" from which to generate a user ID acceptable to the present third party web site 116. Moreover, note that the generation process of step 644 may use various heuristics and third party web site constraints to generate acceptable user IDs.

Alternately, if the negative branch from step 676 is followed, then the third party web site 116 may have rejected registering the user for any of a number of reasons that may not be able to be alleviated in a timely fashion so that the

user can be registered at this third party web site in a short amount of time. Accordingly, step 684 is encountered wherein a message is transmitted to the user's WWW client node 108 indicating that registrar cannot currently register the user at the requested third party web site 116. Further, note that if in step 680 it is determined that too many attempts have been made to generate acceptable registration information for the third party web site, then step 684 is also encountered.

The flowchart of FIGS. 6A and 6B is representative of the processing variations within the scope of the present invention for supplying a third party web site with registration information. For instance, those skilled in the art will appreciate that steps 624 and 660 may have a timer associated with them whereby if there is no response from the third party web site within a predetermined time period, then a default response is provided by a registrar application 128 so that one of the steps 684 or 636 is performed as part of the processing when such a timer expires and subsequent steps in the flowchart are performed. Additionally, other steps may be inserted, for example, on the negative branch from step 676 wherein these additional steps attempt to address other anomalies indicated in the acceptance response received in step 660. For example, if the third party web site 116 requests additional user information than what was provided in step 648, then if this additional information is in the user registration information database 144 and the user has indicated that it is permissible to disseminate this information, then the additional information may be transmitted to the present third party web site 116. Also, in such a case, the transmittal of this additional information is recorded in the registrar access log database 152.

Referring now to FIG. 7, wherein the flowchart for a program is provided for supplying, from the user registration information database 144, a requesting third party web site 116 with registration information related to a particular user. Accordingly, in step 704 of FIG. 7, if the registrar web site 100 has not been previously supplied with an indication as to what type of information is required by the requesting third party web site, then a registrar application 128 constructs such a request to be transmitted to the requesting third party web site and subsequently the application may wait for a response from this third party web site. Following step 704, in step 708 it is assumed that the registrar web site 100 has been provided with an indication or specification as to what information the requesting third party web site desires. Thus, the registrar application 128 performing step 704 may now determine what registration information is to be transmitted to this third party web site. Note that at least in one embodiment of step 708, the user registration information requested may require validation according to the following criteria:

- (1.1) The type and amount of registration information for a user that the user has indicated is available to be transmitted to a requesting third party web site.
- (1.2) The type and amount of information the requesting third party web site 116 has contracted with the registrar web site 100 for transmitting regarding a particular user or category of users.
- (1.3) The registration information available in the user registration information database 144.

Thus, as discussed with respect to step 604 of FIG. 6A, either basic, expanded, custom or proprietary registration information related to a user is transmitted to the requesting third party web site in step 736.

FIG. 8 presents a flowchart for storing, in the user registration information database 144, a user's ID and/or

password for a third party web site 116 to which the user is registered using registrar. More precisely, the user ID and/or password for such a third party web site is stored via the steps of FIG. 8 if this information is different from the user's registrar user ID and/or password. That is, it is believed that for many third party web sites 116, the registrar user ID and password for users registered at the registrar web site 100 will be identical to the user's user ID and password at third party web sites. Note that there are significant advantages to third party web sites 116 using, for each registered user, the user's registrar user ID and password (or, some other user ID and password in common with other third party web sites to which the user is registered). For instance, a user is required to remember fewer user IDs and passwords associated with web sites and the web sites providing this convenience may have a higher volume of users accessing the web site due to the greater ease of access.

Regarding the steps of FIG. 8, in step 800 a determination is made as to whether the user has been provided with a user ID (optionally password) for the third party web site 116 (to which the user is attempting to register) that is different from the user's registrar user ID and/or password. If not, then there is nothing additional to store at the registrar web site 100 and the flowchart ends. Alternatively, if the decision of step 800 results in a positive answer, then step 804 is performed wherein the user's specific user ID and optionally password for this third party web site is stored with other user registration information in the user registration information database 144. Note the following advantages accrue by storing user registration information at the registrar web site: (a) each user has the convenience of off-site storage backup for each such third party web site to which the user is registered and (b) depending on the registration process at the third party web site, it may be expedient for such a web site (at least temporarily) to automatically contact the registrar web site 100 for retrieving, for example, the user's third party web site specific user ID upon subsequent user accesses to the third party web site.

Following step 804, in step 808 a determination is made as to whether the third party web site has indicated that it will initiate requests as in (b) immediately above. If so, then no further processing needs to be accomplished here in that the user may enter his/her user registrar web site 100 user ID (and optionally password) when accessing the third party web site. Alternatively, if step 808 yields a negative answer then step 812 is performed wherein the registrar web site 100 sends a message to the user at the user's WWW client node 108 providing the user with the ID (and optionally password) for the third party web site.

In an alternative embodiment of the present invention, a registrar registration module 156 may be provided at the user's WWW client node 108. This module (whether incorporated into the WWW browser 120 or external to the browser and communicating with the browser through, for example, a browser 120 port) may store locally at the client node 108 registration information for accessing third party web sites 116 to which the user has registered using the present invention. In FIGS. 9-13, flowcharts are provided for programs illustrating the processing of this alternative embodiment of the present invention.

In FIG. 9, a flowchart is presented of the program for registering at a third party web site 116 when the module 156 is installed on the user's client node 108.

Describing now the steps of FIG. 9, in step 904 the user sends a request to access a third party web site 116 via the user's WWW browser 120. Subsequently, upon receiving the request, the accessed third party web site 116 responds

with a home page having a registration fill-out form (step 908). Assuming that the registration fill-out form allows the user to indicate that user registration information may be obtained locally at the client node 108, in step 912 the user indicates on the fill-out form that he/she desires to register at the third party web site and that his/her registration information can be retrieved using the registrar registration module 156 residing on the user's client node 108. Further note that the user may be required to activate or alert the module 156 so that this module can supply the appropriate user registration information to be communicated to the third party web site 116. Also note that the home page from the third party web site 116 may indicate the type of information required to register the user and this information may be used either manually or automatically for determining the user registration information stored on the user's client node 108 that will be transmitted to the third party web site. Subsequently, in step 916 the user specifies that the registration fill-out form is to be submitted to the third party web site. Accordingly, the WWW browser 120 communicates with the registrar registration module 156 to supply the registration information to the third party web site. That is, the processing performed here includes the steps of FIG. 10 which are described herein below. Subsequently, in step 920 a message is sent from the registration module 156 to the registrar web site 100 indicating that the user has registered at the third party web site and additionally supplying the registrar web site 100 with any user ID and password specific to the third party web site. Note that by sending this information as well as, for example, a copy of substantially all of the user's registration information stored locally to the registrar web site 100, the user is provided with an automatic off-site backup of his/her registration information. Additionally, the user may be provided with other advantages by providing his/her user registration information to the registrar web site 100. In particular, the registrar web site 100 may enrich the user's registration information with publicly available information on the user and alert the user to discrepancies between the user information and various publicly available records on the user.

Referring now to the flowchart of FIG. 10, this flowchart describes the steps performed when supplying a third party web site 116 with registration information retained by the registrar registration module 156 on the user's node. In step 1004, the steps of the flowchart of FIG. 7 are performed for retrieving the registration information requested by the third party web site. Subsequently, in step 1008 the registrar registration module 156 packages the accessed registration information for the third party web site together with the user's registrar ID (and optionally password) for transmittal to the third party web site. Subsequently, in step 1016 the registration information packaged together in step 1008 is encrypted so that in step 1020 this encrypted information may be sent securely to the third party web site via the World Wide Web 104. Following this, in step 1024 the module 156 logs an entry into a local log on the client node 108 indicating what registration information was sent to the third party web site. Subsequently, in step 1028 a process may be instantiated to wait for an acceptance response from the third party web site so that when such a response is obtained it may be logged locally at the client node 108 in step 1032.

In one embodiment of the present invention the user may configure the registrar registration module 156 to log all activities with third party web sites 116 and provide the records of this log to the registrar web site 100. This allows the registrar web site 100 or personnel that maintain the registrar web site 100 to analyze user activities on the World

Wide Web 104. Such analysis may be useful to both registrar users and third party web site personnel in that, given a user's World Wide Web 104 activity, the registrar web site 100 may suggest additional third party web sites 116 of which the user may not be aware. Further, by analyzing the user access logs of registrar users, the registrar web site 100 may provide statistics to the third party web sites 116 as to the number and types of users accessing their respective web sites.

FIGS. 11A and 11B present a flowchart for the steps performed by the present invention when the user changes his/her registrar registration information. That is, the flowchart of FIGS. 11 encompasses both the architecture or embodiment of the present invention wherein the user's registration information is stored substantially only at the registrar web site 100, and also the architecture or embodiment wherein the user's registrar information is also stored at the user's client node 108. Accordingly, in step 1104 a determination is made as to where the user's registration information is stored. Note that this step 1104 is unlikely to be explicitly performed by either the present invention or the user. Instead, the embodiment of the present invention determines which of the paths from this step to follow (i.e., if module 156 exists, then the "USER NODE" branch is followed; otherwise, the "REGISTRAR WEB SITE ONLY" branch is followed). Accordingly, assuming that the present invention is embodied such that the user's registration information is stored at the web site 100 only, then step 1108 is encountered wherein the user accesses the registrar web site 100 from his/her WWW client node 108 by entering his/her user ID and optionally password. Subsequently, in step 1112 the registrar web site 100 responds with a web page having a number of options related to the user's registration information and registrar web site 100 processing of this information. Note that such options include a request by the user to modify the user's registration information stored at the registrar web site. Additionally, other options may be also provided to the user including: (a) an option for requesting to be no longer affiliated with the registrar web site 100 and have all the user's registration information deleted; (b) an option for requesting to examine all information regarding the user stored at the registrar web site 100, including all information the registrar web site has obtained from publicly available sources; (c) a request for procedures and/or addresses to contact publicly available databases that registrar has accessed obtaining incorrect user information; and (d) third party web sites 116 that are providing information for a limited period of time and for which the user may be interested. Following step 1112, in step 1116 the user enters new information into an appropriate fill-out form received at the user's WWW client node 108 from the registrar web site 100. Note that this form is likely to be in a page different from the page of options described in step 1112. That is, upon submission of the page of options, the registrar web site 100 responds with a new page(s) having fill-out forms with the presently stored user registration information presented in the forms so that the user may change any of the fields on this page(s).

Note that in at least one embodiment of the present invention, the user is allowed to change his/her registrar user ID and/or password. However, it may be the case that when a user changes his/her registrar user ID, that the new requested user ID has already been assigned to another registrar user. Thus, the registrar web site 100 may respond with a request for further information (such as a request for a different user ID from the user) wherein when the user submits the additional information, the registrar web site

100 again checks to determine if the user is uniquely identifiable. Note that the loop of steps 1120 and 1124 are provided to represent the iterative process described here of changing the user's user ID. Further note that in some embodiments of the present invention, the registrar web site 100 may respond with alternative variations for a new user ID so that the user is not left to guess at a registrar user ID that is acceptable for uniquely identifying the user.

Returning now to step 1104, if the user's registration information is stored locally at the user's client node 108, then step 1128 is performed instead of the steps 1108-1124. However, for simplicity, a discussion of the processing performed in step 1128 is not described in detail here. Instead, a detailed discussion of this step is provided by FIGS. 12 and the discussion of FIGS. 12 hereinbelow for changing the registration information at the user's client node 108 and for transmitting the changes to the registrar web site 100.

Regardless of the branch of processing taken from step 1104, eventually step 1132 and the subsequent steps of FIG. 11B are encountered wherein the present invention updates or alerts third party web sites having previously received user registration information that this information may be outdated. Thus, the steps 1132-1140 are performed so that the registration information provided to such third party web sites via the present invention is consistent with the newly supplied user registration information. However, in at least one embodiment of the present invention, prior to providing any newly entered user registration information to the third party web sites, such information may be compared or correlated with publicly available information regarding the user that is, for example, accessible via certain third party web sites 116. Further, the user may request his/her newly entered registration information by supplied to only selected web sites to which the user is registered, or alternatively, the user may request that the newly entered registration information be supplied to all web sites to which the user is registered.

FIG. 12 presents a flowchart of the steps performed when the registrar registration module 156 is provided at the client node 108 and the user enters registration information into this module. Note that the steps of this flowchart may be performed when the user is entering registration information for registering the user with registrar, or when modifying registration information already supplied to registrar. Accordingly, in step 1204 the user requests activation of the registrar registration module 156 on the user's client node 108 for entering information that will subsequently be used for registering substantially automatically cooperating at third party web sites 116 requested by the user. Subsequently, in step 1208 the registrar registration module 156 on the user's client node 108 presents the user with one or more fill-out forms for the user to provide new registration information. Following this, in step 1212 a determination is made as to whether the user requests to obtain a registrar user ID. If so, then in step 1216 the program corresponding to the flowchart of FIG. 13 is performed to provide the user with a valid registrar user ID and optionally password. Subsequently, in step 1220 a determination is made as to whether the program of FIG. 13 returns a valid registrar user ID. If so, then step 1224 is performed wherein the new user's registrar ID is stored on the user's node 108 for a subsequent transmittal to a third party web site during a registration process at a third party web site that accepts the registrar user ID as the web site's ID. Subsequently, regardless of the path taken from step 1220, step 1228 is encountered wherein a determination is made as to whether the user desires to enter further user registration information.

If the user desires to enter further information, then step 1212 is again encountered and a determination is made once again as to whether the user requests to obtain a registrar user ID. However, it is important to note that the steps provided in this flowchart are only an indication of the processing provided by the registrar registration module 156 and the user's browser. In particular, since the user interfaces typically used by World Wide Web browsers allow a user to select the fill-out form fields to modify, the positive branch from step 1212 is taken only when the user enters information in a fill-out form field indicating that a registrar user ID is requested. Similarly, the negative branch from step 1212 is taken whenever user information is entered into other fill-out form fields unrelated to obtaining a registrar user ID.

Accordingly, if the user desires to enter other information than that required to obtain a registrar user ID, then from step 1212, step 1232 is encountered wherein the registrar registration module 156 explicitly requests the user's registrar registration user ID (and optionally password). Subsequently, in step 1236, assuming the user enters a registrar user ID, a determination is made as to whether the registrar user ID is valid. Note that this determination is initially made locally at the user's client node 108 without contacting the registrar web site 100. However, in one embodiment of the present invention, it is an option that if the registrar user ID entered is not found in the client node 108, then the registrar registration module 156 may inquire of the user as to whether he/she desires the registrar web site 100 to be interrogated for the registrar user ID and password and, if found, download the user's registration information to the user's client node 108. If no valid registrar user ID is determined in step 1236, then the program ends in step 1240. Alternatively, if a valid registrar user ID is obtained, then in step 1244 a determination is made as to whether the user requests to exit the present program and thereby stop supplying registration information. Note that this step is similar to step 1212 in that if the user continues to enter registration information in fill-out form fields, then the negative branch from this step is followed and, alternatively, if the user, for example, activates an exit button on the user interface, then the positive branch from step 1244 will be followed. Accordingly, if the negative branch is followed, then in step 1248 the program of FIG. 3 is performed for obtaining new user registration information and, subsequently, step 1212 is encountered (or, more precisely, the user interface is provided that allows the user to request a registrar user ID).

Alternatively, if the positive branch is taken from step 1244, then step 1252 is encountered wherein the registrar registration module 156 transmits (or schedules the transmission of) any newly entered user registration information that the user desires to be transmitted to the registrar web site 100 for backup storage. Thus, in one embodiment of the present invention, the step 1252 provides the user with the option to discard the registration information provided in step 1248 above instead of transmitting this information to the registrar web site 100.

In FIG. 13, a flowchart is presented of the program for obtaining a registrar user ID and optionally password for the embodiment of the present invention wherein the registrar registration module 156 retains the user's registrar user ID (and optionally password) for automatically providing to third party web sites at which the user requests registration using the present invention. Accordingly, in step 1308 the registrar registration module 156 requests the user to select a registrar user ID and optionally a password that can be used to access the user's registration information at both the user's client node 108 and at the registrar web site 100.

Assuming that the user enters a user ID and optionally password in step 1308, in step 1312 the registrar registration module 156 transmits the user selected ID and optionally password to the registrar web site 100. Subsequently, in step 1316 a determination is made by the registrar application 128 as to whether the user's selected user ID and optionally password are acceptable to the registrar web site. That is, a registrar application 128 accesses the user registration information database 144 to determine if the selected user ID is sufficiently unique. Note that other steps may be performed between steps 1308 and 1312. For example, the syntax for user IDs and optionally passwords may be checked at the module 156 prior to transmitting the user's selected registration information to the registrar web site 100.

Continuing with step 1316, a determination is made at the registrar web site 100 as to whether the user's selected user ID and optionally password are acceptable to registrar. If so, then in step 1320 a registration application 128 stores the user's ID and optionally password in the user registration information database 144. Note that since it is unlikely that any further information related to the present user is stored at the registrar web site, the process of storing the user's user ID and optionally password includes creating a new record in the database 144 and marking all remaining fields related to registration information for this user to indicate that these fields are as yet not valid. Following this, in step 1324 a registrar application 128 transmits a message to the user's WWW browser 120 indicating that the user's selected user ID and optionally password is acceptable to registrar.

Alternatively, if the negative path is taken from step 1316, then step 1336 is encountered wherein a registrar application 128 attempts to generate an acceptable user ID and optionally password as a substitute for the user's proposed user ID (and optionally password). Note that in generating alternative registration information, the registrar application 128 may use the user supplied information as the basis or "seed" for generating an acceptable user ID (and optionally password) to be transmitted back to the user. Accordingly, in step 1340, once the user is presented with the newly generated registration information on the user's client node 108, the registrar registration module 156 provides the user with the option to accept or reject the generated information. If the user accepts the generated registration information, then the flowchart ends. Alternatively, if the user rejects this information, then in step 1348 a further determination is made by the module 156 as to whether the user enters a new user ID (and optionally password) as an alternative to the generated registration information. If such new user registration information is provided, then step 1312 and steps thereafter are again performed in attempting to provide a registrar user ID (and optionally password) to the user. Alternatively, if the user indicates in step 1348 that no further proposed candidates for a user ID (and optionally password) will be forthcoming, then the flowchart ends without an acceptable registrar user ID being obtained.

The foregoing discussion of the invention has been presented for purposes of illustration and description. Further, the description is not intended to limit the invention to the form disclosed herein. Subsequently, variation and modification commensurate with the above teachings, within the skill and knowledge of the relevant art, are within the scope of the present invention. The embodiments described hereinabove are further intended to explain the best mode presently known of practicing the invention and to enable others skilled in the art to utilize the invention as such, or in other embodiments, and with the various modifications required by their particular application or uses of the inven-

tion. It is intended that the appended claims be construed to include alternative embodiments to the extent permitted by the prior art.

What is claimed is:

1. A method for registering a user at a plurality of user requested nodes of a communications network wherein nodes of the network are identified using an Internet addressing scheme, comprising:

first storing registration information related to the user in a first data store on a first node of said network, said registration information including demographic information regarding the user that is useful by web site operators in monitoring web site usage;

second storing said registration information in a second store on a second node of said network, said second node being different from said first node;

providing the user with a user identification code permitting access to said registration information in at least one of said first data store on said first node and said second store on said second node;

supplying to at least one requested node of said plurality of requested nodes: (a) said user identification code for registering the user at said at least one requested node, and (b) said registration information transmitted from one of said first data store on said first node and said second store on said second node for registering the user at said at least one requested node, wherein the user can automatically provide said registration information, including said demographic information useful for monitoring web site usage, to said at least one requested node.

2. A method as claimed in claim 1, wherein said first node is a client node and said second is a server node.

3. A method as claimed in claim 1, wherein said communications network utilizes an internet protocol.

4. A method as claimed in claim 1, further including a step of providing a modification to said registration material from said first store to the second store.

5. A method as claimed in claim 4, wherein said step of providing includes retaining said modification in said first and second stores, wherein said modification is transmitted to said at least one requested node in said step of supplying.

6. A method as claimed in claim 1, wherein said first step of storing includes inputting said registration information by the user.

7. A method as claimed in claim 1, wherein said step of second storing includes transmitting said registration information from said first node to said second node using said communications network.

8. A method as claimed in claim 1, wherein said step of supplying includes:

inputting user identification from said first node;
transmitting said user identification to said second node;
and

using said user identification at said second node for determining said user identification code.

9. A method as claimed in claim 1, wherein said step of supplying includes requesting, by said at least one requested node, said registration information from said second node.

10. A method for registering a user at a plurality of user requested nodes of a communications network wherein nodes of the network are identified using an internet addressing scheme, comprising:

manually inputting registration information related to the user at a first node of said network, said registration information including demographic information

regarding the user that is useful by web site operators in monitoring web site usage;

transmitting said registration information from said first node to a second node of said network;

providing the user with a request concerning access to said registration information at said second node;

transmitting a communication from said first node regarding said registration information in response to said request;

supplying said registration information from said second node to at least one requested node of said plurality of requested nodes upon receipt of said communication, wherein the user can automatically provide said registration information, including said demographic information useful for monitoring web site usage, to said at least one requested node.

11. An apparatus for registering a user at a plurality of user requested nodes of a communications network wherein each node of the network is identified using an internet addressing scheme, comprising:

means for providing registration information related to the user on a first node of said network;

means for transferring said user information to said means for providing from a second node of said network;

means for transmitting a user identifying code from said first node to said second node, said user identifying code related to said registration information;

means for registering the user on at least one requested node of said plurality of requested nodes by transmitting said user identification code from said second node to said at least one requested node;

means for determining, at said at least one requested node, said user registration information is provided by said first node;

means for requesting, by said at least one requested node, said registration information from said first node by supplying said first node with information identifying said user identification code.

12. A method for use in transmitting registration information between nodes of a communication network, wherein nodes of the network are identified using an internet addressing scheme, comprising the steps of:

receiving, at a first node of said network, user registration information regarding an internet user from a second node of said network associated with the internet user, said registration information including demographic information regarding the user that is useful by web site operators for monitoring web site usage;

storing said user registration information at said first node;

receiving, at said first node, a communication from said second node regarding re-transmission of said user registration from said first node to a third node of said network; and

re-transmitting, based on said communication from said second node, said user registration information from said first node to said third node, wherein the user can automatically provide said registration information, including said demographic information useful for monitoring web site usage, to said third node.

13. The method of claim 12, wherein said step of receiving a communication comprises receiving permission from said user to disseminate said registration information including said demographic information.

14. A method for use in transmitting registration information between nodes of a communications system, wherein

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nodes of the communications system are identified using an internet addressing scheme, comprising the steps of:

providing a network structure for use in conducting communications between a first node associated with a network user, a second node wherein registration information regarding said network user is stored and a third node, said registration information including demographic information regarding the user that is useful by web site operators for monitoring web site usage;

first conveying, using said network structure, a request from said third node regarding access to information including said registration information;

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second conveying, using said network structure, a communication from said first node regarding access to said registration information stored at said second node; and third conveying, using said network structure and based on said communication from said first node, a communication including said registration information from said second node to said third node, wherein the user can automatically provide said registration information, including said demographic information useful for monitoring web site usage, to said at least one requested node.


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products

75 Local Market Database

Scarborough Research's syndicated database is the most comprehensive local market study available. The study is comprised of detailed demographics, consumer behavior, lifestyle activities and media habits for 75 local U.S. markets. Scarborough data is a powerful sales tool that helps clients understand the local marketplace.



Our growing roster of clients includes: newspapers, radio stations, broadcast television, cable systems, sports teams and leagues, agencies, advertisers, and Internet companies. For more information about becoming a Scarborough subscriber please e-mail info@scarborough.com. To learn more about Scarborough methodology, or view an in-depth listing of Scarborough categories please [click here](#).

Scarborough USA

Scarborough's latest product, released in September 2001, helps you better understand the American consumer on a national level. The data can assist you in answering questions such as: What are Americans planning to buy in the next 12 months? Where are they shopping? What are their favorite sports teams? What do they do on the internet? Scarborough data includes: detailed demographics, shopping, lifestyle, and national media usage information giving you the power to paint an in-depth portrait of the American marketplace. To be contacted by sales representative and learn more about the benefits of the Scarborough USA, please e-mail info@scarborough.com.

Scarborough USA+

This database is an expanded version of the Scarborough USA that also provides detailed demographics, shopping, lifestyle, and media usage information PLUS the ability to drill down to the local and/or regional level. The ability to compare the local market to the national average is key in understanding local market strengths and dynamics. To be contacted by a sales representative learn about the benefits of the Scarborough USA+, please e-mail info@scarborough.com.

Stat Shop

Scarborough Research introduces Stat Shop, a new online resource for purchasing customized data reports that help you analyze the unique characteristics of the American lifestyle. Through this service you can get information to better understand a consumer group, specific retailer, local market or targeted demographic to create or validate your marketing strategy. Our Stat

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Hispanic Study

The Hispanic Study is a syndicated database comprised of detailed demographics, consumer behavior, lifestyle activities and media habits of the Hispanic population. It is the largest available data available that provides robust Hispanic in-tab for in-depth market analysis. This study adheres to the general Scarborough methodology with concentration on Hispanics in nine local markets, which are: Chicago, Dallas, Fresno, Houston, New York, Phoenix, Sacramento, San Antonio, and San Francisco. There are eleven additional markets of syndicated data that have enough Hispanic population to qualify for procedures used for the custom oversample conducted in the above markets and they are: Albuquerque, Austin, Denver, El Paso, Las Vegas, Miami, Orlando, San Diego, Washington D.C., and West Palm Beach. E-mail info@scarborough.com for more information.

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